

Ventilation / Air conditioning Control Systems for Licensed Premises

1. Objective

The objective of this requirement is, in the event of fire, to reduce air movement within the affected compartment, i.e. to allow smoke to rise and form a layer at ceiling level which will not be disturbed by the introduction of air into that smoke layer.

2. Applications

2.1 An automatic cut-off device shall be provided to the ventilating system having air handling capacity exceeding 1 cubic metre per second or serving more than one fire compartment.

2.2 Any air moving system, with the exceptions as listed hereunder, utilizing both a fan and duct, to mechanically force air into, around, or out of, any building or part thereof and includes systems which contain devices for reducing or increasing the temperature and / or humidity of the air inside any building, or part thereof, below or above the temperature of the external air for the purpose of environmental control.

2.3 The following mechanical ventilating systems shall be exempted from these requirements : -

- (a) Any mechanical ventilating system forming part of the Fire Service Installations and installed solely for fire protection or fire fighting purposes, i.e. Staircase Pressurization Systems and Smoke Extraction Systems.
- (b) Individual, self-contained or split-type, direct expansion room cooling units not connected to ductwork systems.
- (c) Mechanical ventilating systems handling toxic gas or grease / air mixtures, i.e. fume cupboard ventilation, kitchen ventilation, systems handling toxic gases / explosive gases, etc.
- (d) Mechanical ventilating systems where all air is supplied at low level and / or extracted (not recirculated) at high level.
- (e) Individual toilets which are mechanically ventilated directly (i.e. ventilating system not serving other areas) to outside.

3. Control and Installation

3.1 One of the following three control methods are acceptable :-

- (a) The compartment / unit is provided with a smoke detector automatic fire alarm system, on actuation of that system, will automatically shut down all fans in mechanical ventilating system serving the compartment / unit.

- (b) Smoke detectors of a type suitable for use in air ducts, shall be installed in the exhaust and / or recirculation ductwork serving the compartment / unit, which on sensing smoke, will automatically shut down all fans in the mechanical ventilating system serving the compartment / unit. It is required that when the detector is failure or removed from the detector base, the ventilating system shall be shut down.
 - (c) The tripping is actuated from the building fire alarm system such that all the fans in the mechanical ventilating system serving the licence premises are shutdown instead of isolated compartments / units.
- 3.2 For buildings where central mechanical fresh air supply and / or exhaust systems are installed, either
 - (a) the central fresh air supply and / or exhaust system shall be shut down; or
 - (b) the central fresh air supply and / or exhaust system shall not require to be shut down but the fresh air and / or exhaust to the affected compartment / unit shall be closed off from the central system by actuation of a local motorised smoke damper.
- 3.3 Shut down of the mechanical ventilating systems utilizing a multiplex automatic fire alarm or Building Automation System shall be permitted so long as the multiplex system is on the Fire Services Department list for this type of equipment / system.
- 3.4 In addition to the control methods mentioned in paragraph 3.1, a manual override switch shall be provided at the central fire control panel to allow the engineering staff of the Building Operator, or the Fire Services Department personnel, to switch off the fans for all the mechanical ventilating systems serving the building in the event of an emergency. If there is already a manual override switch installed for controlling the mechanical ventilating system of the building, tripping of mechanical ventilating system of the licence premises shall be actuated by the same manual override switch of the building unless there is specific reason or difficulty as approved by the Director of Fire Services.
- 3.5 The manual override control switch shall be affixed with an identification plate engraved with English and Chinese characters '**VAC Manual Override Control Switch** (通風/空氣調節 手動關止掣)' conspicuously of at least 10mm character height.