

Pool Vent Ltd

FIRE DAMPER CONTROL SYSTEM

USER MANUAL

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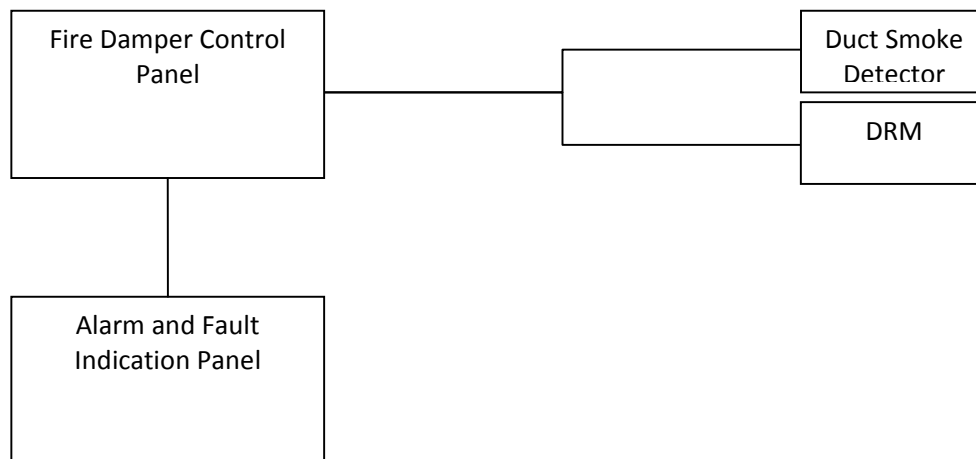
1.0 Introduction

This system is not a fire detection system, it is supplementary detection and fire damper activation. The Fire Damper Control System complies with BS 476 Part 20 certified fire dampers and BS EN 1366 2.

The system comprises of:

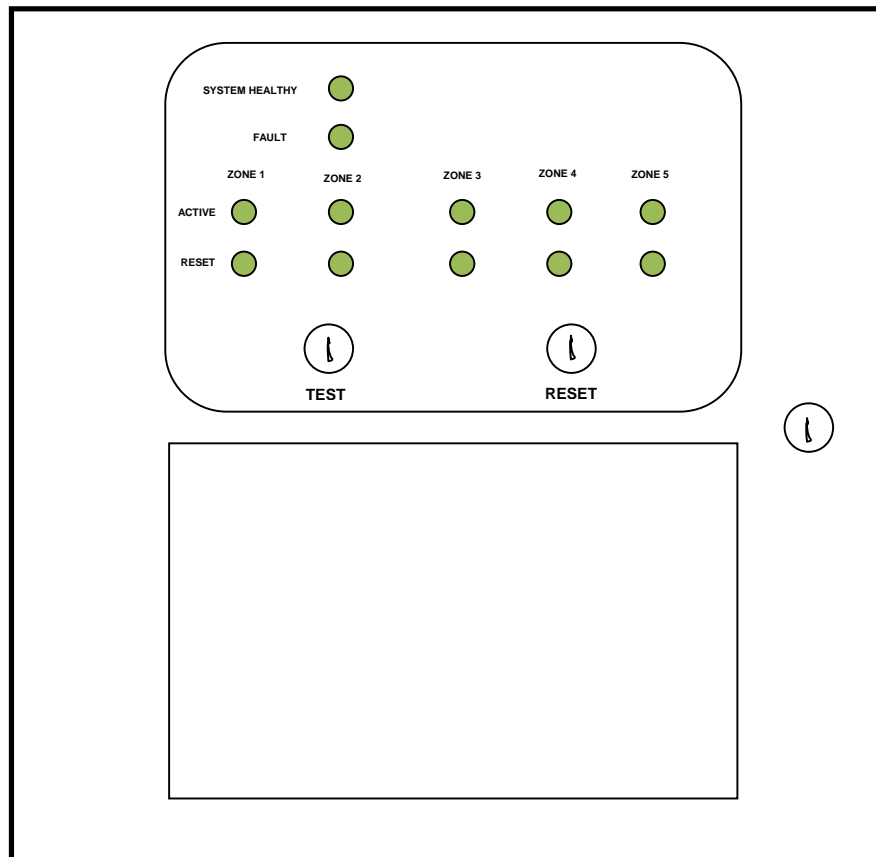
- Conventional Duct Smoke Detectors (mounted in extract ducts)
- Damper Release Mechanisms (DRM) (mounted in supply ducts)
- Fire Damper Control Panels (mounted in Plant Rooms)
- Alarm and Fault Indication Panel (mounted in main reception)

The system constantly monitors for cold smoke within AHU extract ducts and upon detection will automatically close the fire damper within the applicable supply duct. If no smoke is detected within the extract duct and the temperature rises above 72°C then the fire damper will close via operation of a fusible link.



2.0 Fire Damper Control Panels

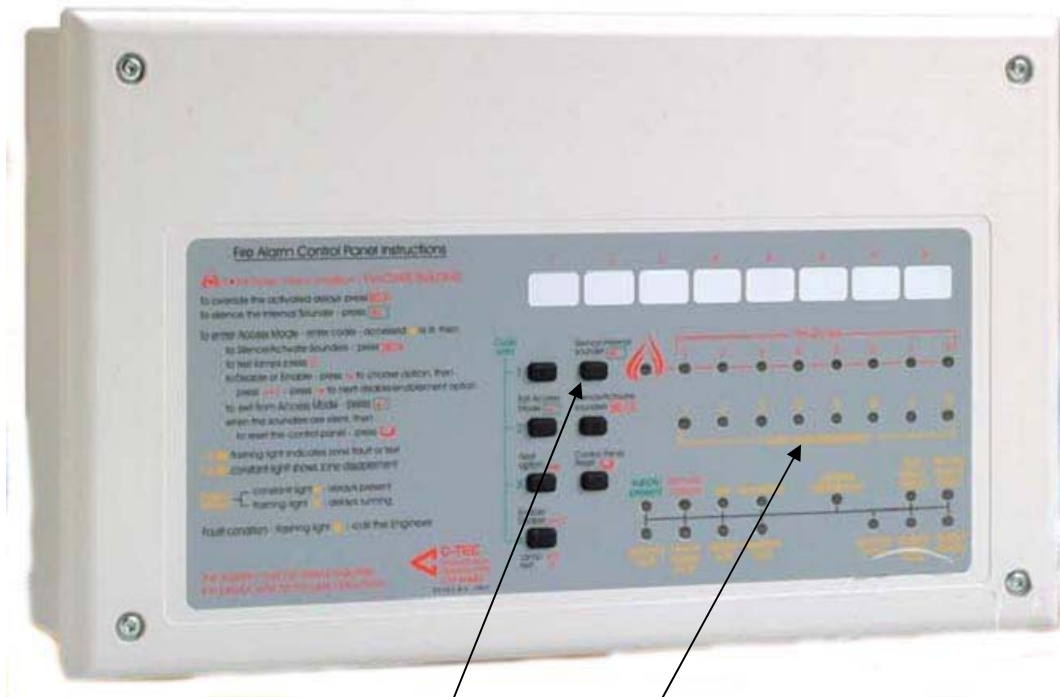
These panels constantly monitor for duct smoke detector alarm signals and the internal power supply regularly performs internal checks ensuring correct operation. The standby batteries are monitored for charge and condition. Normal operation is indicated by the system healthy indicator illuminated green, any fault condition is indicated by the fault indicator illuminated yellow. If one or more duct smoke detectors detect smoke the relevant zone active indicator/s will illuminate green and the panel will activate the damper release mechanism/s for the appropriate zone/s. If any zone activation or fault condition occurs, these panels will also trigger a zone fault indication on the alarm and fault indication panel in the main reception.



Important Note:
There are no user serviceable parts within the control panel. All internal maintenance work **MUST** be carried out by a competent person trained to undertake such work.

2.1 Alarm And Fault Indication Panel

This Panel is mounted in the main reception and indicates if a Fire Damper Control Panel has a zone activation or fault condition. When an alarm or fault condition occurs the internal sounder will sound and the panel or panels activated will be indicated by a yellow LED as shown below. This panel will self reset after the Fire Damper Control Panel has been reset or the fault removed see section 3.



MUTE INTERNAL SOUNDER

PANEL ACTIVATED INDICATED YELLOW

2.2 Conventional Duct Smoke Detector

Principles of operation

The duct smoke detector is mounted to the side, the top or the bottom of the ventilation duct and has two tubes which extend into the air duct through holes in the duct wall. The perforated inlet tube which spans the duct is placed in the air flow upstream of the exhaust tube which causes a pressure differential in the duct detector. Air is sucked up the inlet, across the detector and exhausted back into the air duct. The detector head used is a series 65.

2.3 Damper Release Mechanism (DRM)

The DRM is mounted within the supply duct and facilitates the release of the curtain fire damper when smoke is detected within the extract duct. When smoke is detected the Fire Damper Control Panel supplies the DRM with 24 volts DC which operates a solenoid to release the damper and a micro switch confirms activation.

3.0 Response To An Alarm

Procedure for Alarm And Fault Indication Panel (main reception)

1. In the event of an alarm or fault condition an amber indicator is illuminated for the relevant panel located in the plant rooms an internal buzzer is sounded.
2. Mute the internal buzzer using the mute button on the panel.
3. Note the Panels activated and contact the engineering department with the relevant information.
4. When the fault has been rectified or the panels activated are reset, this panel will automatically reset.

Procedure for Fire Damper Control Panels (plant rooms)

1. Upon locating the correct panel, check to see which of the five zone indicators are illuminated and establish if it is an actual fire or false alarm for the zones indicated, if a false alarm the procedure below can be followed to reset the panel.
2. If only the amber fault indicator is illuminated this may be due to a local mains supply failure or because the standby batteries or charger are faulty, if unsure of cause contact Pool Vent Ltd.
3. For each zone indicator the relevant damper location can be determined using the diagram on the panel.
4. There are two key switches mounted on the control panel one marked RESET and the other TEST. The test switch should only be used during maintenance testing as this will activate all five damper release mechanisms simultaneously.
5. To enable resetting of the activated DRM and damper the reset switch must be turned 90 degrees clockwise.
6. After resetting the activated DRM's and damper's, turn the reset switch to its normal operating position.
7. After all activated panels have been reset, the panel in reception will automatically reset.