

## Case Study 5: Refrigerant Gas Detection

**Installation:**  
Floodline FGS 1000  
Gas Sensor coupled  
with Floodline 128  
Control System

As part of BS EN378 Andel have supplied and installed a major refrigerant gas detection system across 7 floors of a new London office block monitoring all Air conditioning units and associated pipework for any leaks within office areas and alerting staff with both local and centralised alarms.

BS EN378 specifies the installation of fixed refrigerant leak detectors in both existing and new systems especially where there is more than 300kg of refrigerant within the system.

The Floodline FGS1000 complies with BS EN378 and detects refrigerant gases to H S E Occupational Exposure Limits. The sensitivity controls are calibrated with 1000ppm gas to air mixture using the specified gas (R134A, R404A, R407C, R410A). Other gases can be accommodated subject to calibration.

The FGS1000 Gas Sensor constantly monitors the area for any build up of the specific refrigerant gas above a preset level.

When a leak above the preset levels is detected, audio/visual warnings are given by a pulsing 85dB sounder along with amber LED for "LEAK" and red LED for "ALARM".

On every floor of the 7 storey office block adjacent to A/C Units, 1no Floodline FGS1000 has been installed at 100mm above floor level, calibrated to 1000ppm of R407C refrigerant gas.

Each Sensor has been allocated its own separate Zone for ease of leak location by the client, all monitored by 1no centrally located Floodline 128 Control System.

When a leak above the preset levels is detected,

audio/visual warnings are given by a pulsing 85dB sounder along with amber LED for "LEAK" and red LED for "ALARM". A 'LEAK' alarm is also shown at the central Control Panel.

Refrigerant Gas Sensors are also installed within Plant Rooms, Machine Rooms etc., and Andel have also installed an extensive Refrigerant Gas Detection system as well as a water leak detection system monitoring a major southern Data Centre.

Water leak detection is installed within the actual Data Halls and Refrigerant Gas Detection Sensors are installed in adjacent Machine Rooms & Boiler Plant Rooms.

The different Sensors are allocated separately reporting Zones with both the Water & the Refrigerant Gas Sensors being monitored by 1no central Floodline Control Panel for ease of leak location on both systems.

