



Remote**HVAC**

**PERFORMANCE MONITORING
FAULT DETECTION
REPORTING**

Heat Stratification Case Study

The RemoteHVAC software identified a **Heat Stratification Fault** on two AHU, which provide critical conditioning for a grocery area in a large retail store.

1

Problem:

Thermal or Heat stratification occurs when cool dense air sinks and warmer less-dense air rises. This natural process create layers of air with a gradient of temperatures.

Solution:

Automated detection using RemoteHVAC software.

Brief survey to validate temperature readings

De-stratification fans to be installed.

Result:

Avoidance of annual gas wastage of **€36,000**

Decreased **wear and tear** on components.

Improved **comfort** in environment.

Hunting Case Study

The RemoteHVAC software identified a classic case of **Supply Temperature Hunting** on a packaged rooftop AHU, with DX cooling and two stage gas burners.

2



Problem:

Hunting is a common and difficult issue to detect in HVAC systems. The Air Handling Unit becomes ineffective as it oscillates about a setpoint trying to find equilibrium.




Solution:

Automated detection using RemoteHVAC software.

Onsite meters surveyed to validate electricity and gas wastage.

Control Strategy to be tuned by BMS engineers.



Result:

Avoidance of annual gas and electricity wastage of **€8000**

Significantly reduced component **wear and tear** from rapid cycling.

Increased **comfort** from draught effects of low supply air.

Heat Recovery Case Study

The RemoteHVAC software identified **Inefficient Use of Heat Recovery** on an air handling unit servicing the kitchen/canteen of a large commercial office building.

3

Problem:

The AHU was operating a pre-heat frost coil in warm outdoor air conditions which led to a limiting effect on the effectiveness of the available heat recovery system.

Solution:

Automated detection using RemoteHVAC software.
Resolution information sent to onsite engineering team.
Corrective action taken by onsite team.

Result:

Reduced the kWh **running cost** of the air handling unit by **19%**
Increased the use of **heat recovery** in air handling unit by **430%**.
Reduced **heating demand** on the primary boiler.

Damper Failure Case Study

The RemoteHVAC software identified a **Damper Failure Fault** leading to an extreme case of overheating in a packaged rooftop AHU, with DX cooling and two stage gas burners.

4

Problem:

Dampers on the AHU were found to be stuck in a closed position preventing normal airflow volumes through the unit, causing a spike in Supply Air Temperature to dangerous levels.

Solution:

Automated detection using RemoteHVAC software.

Resolution information sent to contracted maintenance provider.

Fix implemented promptly by maintenance provider.

Result:

Avoidance of annual gas and electricity wastage of **€18,000**

Avoided a costly replacement of AHU due to **catastrophic failure**.

Reduced **resolution time** for maintenance provider.



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