Due to Faulty VAV Units

ESTIMATION OF EXCESSIVE HVAC ENERGY CONSUMPTION

ABSTRACT:

Abstract: The current study investigates the influence of faulty VAV (Variable Air Volume) systems on energy consumption in buildings. The research aims to quantify the energy savings achievable by identifying and rectifying faulty VAV units.

Keywords: HVAC systems, energy consumption, VAV units, building diagnostics.

INTRODUCTION:

In recent years, the demand for energy-efficient HVAC (Heating, Ventilation, and Air Conditioning) systems has increased significantly. Faulty VAV systems can lead to unnecessary energy consumption, negatively impacting both the environment and operational costs. This study seeks to address the issue by identifying faulty VAV units and estimating the energy savings that could be achieved through their correction.

EXPERIMENTAL ROOM:

The experimental room was equipped with VAV units to simulate real-world conditions. The room's design allowed for the systematic evaluation of VAV performance under various operating scenarios.

METHOD:

A detailed analysis of the VAV systems' performance was conducted using monitoring tools. The data collected was then analyzed to identify faulty VAV units and estimate the energy savings potential.

RESULTS:

The study revealed that faulty VAV units can significantly increase energy consumption. The estimated energy savings, if these units were corrected, were substantial, highlighting the importance of regular maintenance and system optimization.

CONCLUSION:

Faulty VAV units can lead to unnecessary energy consumption in buildings. The research emphasizes the need for regular system checks and maintenance to ensure optimal performance and energy efficiency.

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REFERENCES: