

## Noise reduction strategies for Heating, Ventilation and Air-Conditioning Systems (HVAC)

**Dr. Islam Raafat Mohammed Awad**

Lecturer in Architectural Engineering Dept., Faculty of Engineering,

Horus University, Egypt

[iraafat@horus.edu.eg](mailto:iraafat@horus.edu.eg)

**Dr. Amna Hassan Essayed Omar**

Lecturer in Pyramids Higher Institute for Engineering and Technology

Egypt

[dramnaomar5@gmail.com](mailto:dramnaomar5@gmail.com)

### **Abstract:**

After the great technological development and its entry as a basic component in contemporary buildings, the importance of the architect's knowledge of various sciences outside his/her specialization, the necessity of this is stemming from the fact that these modern components are greatly affecting the comfort of the user of architectural spaces.

Among these modern elements, air conditioning in buildings, such elements have become necessary and indispensable to provide comfort to building users, and on the other hand, these devices cause loud noises during their operation, which causes noise that harms users and affects their hearing comfort.

This research discusses the issue from all its aspects and presents types of these devices and their mechanisms of action and how to provide barriers that prevent the transmission of noise inside buildings so that user of architectural spaces enjoys thermal and audio comfort at the same time.

### **Keywords:**

Heating, Ventilation and Air Conditioning Systems HVAC, Noise control, Indoor & outdoor noise.