Understanding Vapour Absorption Systems: Comprehensive Guide Gaurav Patil 4th Year Mechanical Engineering Subject - RAC



Introduction

In this presentation, we will explore the **principles** and applications of Vapour Absorption Systems (VAS). We will delve into the *working mechanism* and advantages of VAS in various industries.

Vapour Absorption Process

The vapour absorption process involves the absorption of a refrigerant vapour into a liquid absorbent. This process is driven by a heat source and is used in chiller systems for cooling applications.



Working Principle

The working principle of VAS is based on the **thermodynamic cycle** involving the absorption of vapour, generation of refrigerant-rich solution, and subsequent **regeneration** of the absorbent.

Applications

VAS finds applications in various industries including HVAC, industrial refrigeration, and waste heat recovery systems. Its ability to utilize low-grade heat sources makes it ideal for sustainable cooling solutions.



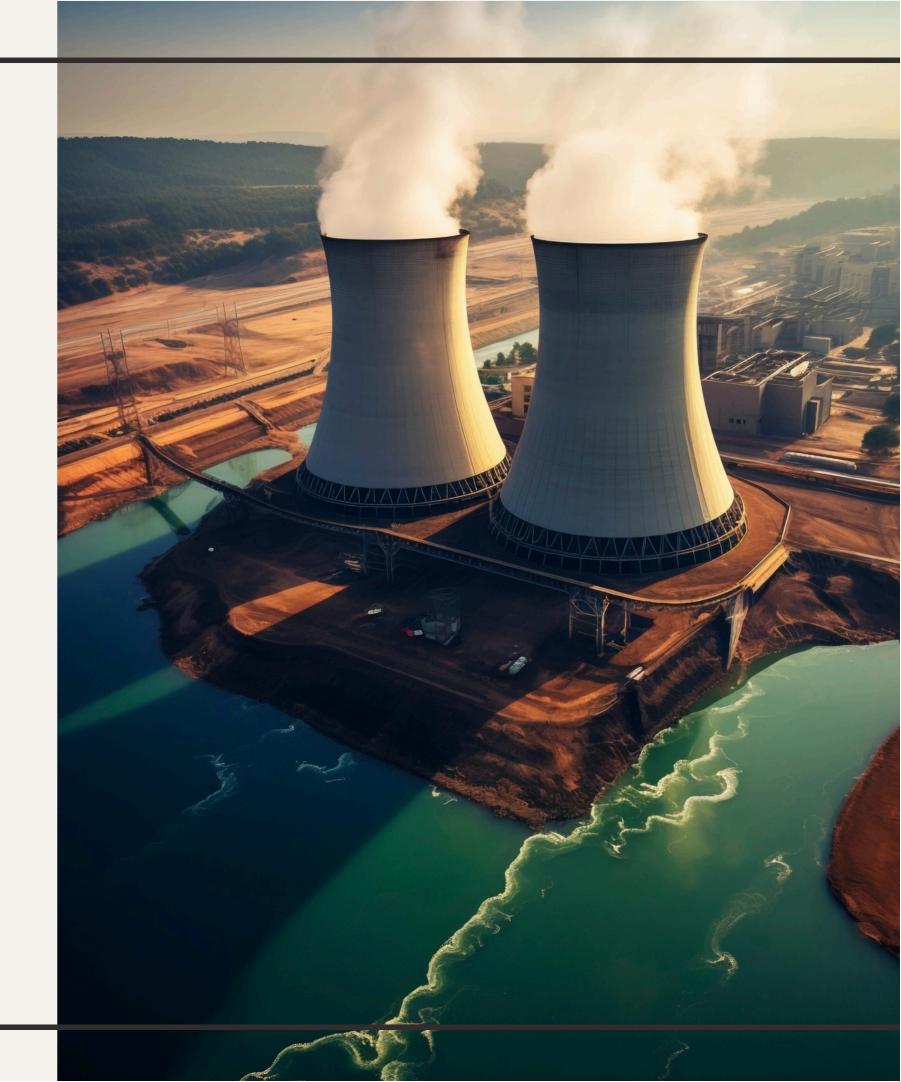


Advantages and Limitations

The advantages of VAS include energy efficiency, use of environmentally friendly refrigerants, and suitability for off-grid applications. However, it also has limitations such as higher initial cost and larger footprint compared to vapour compression systems.

Conclusion

In conclusion, Vapour Absorption Systems offer a sustainable and efficient alternative to traditional cooling systems. Their diverse applications and environmental benefits make them a promising technology for the future of cooling and refrigeration.



Thanks!