



Understanding Vapour Absorption Systems

Gaurav Ramesh Patil

Dhiraj Shailesh Pawar

Dheeraj Arun Mahajan

4th year Mechanical Engineering

Subject -RAC

Guides by;- Mr.Wasim Patel





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!