



Equipment II

Vacuum Systems

Course Objectives

1. Define a vacuum.
2. Distinguish between absolute pressure, gauge pressure, and vacuum pressure.
3. Describe the purpose, theory of operation, and function of a vacuum system.
4. Describe the components of a vacuum system.
5. Describe the operation, components, and typical applications for each type of vacuum pump.
6. Identify typical auxiliary equipment associated with vacuum systems.
7. Describe common performance issues related to vacuum systems and their causes and indicators.



Key Terms (Define the following)

vacuum - _____

vacuum break - _____

barometric leg - _____



Questions

1. List common units for measuring vacuum pressure.

2. What is the difference between gauge pressure and absolute pressure?

3. List three common applications for vacuum systems in chemical processing?
1) _____
2) _____
3) _____
4. What is the purpose of the sealant fluid in a wet vacuum pump?

5. According to Bernoulli's Principle, when the velocity of a fluid increases, its pressure _____.
6. List three advantages of an ejector vacuum pump.
1) _____
2) _____
3) _____
7. List three advantages of a liquid ring vacuum pump.
1) _____
2) _____
3) _____
8. What is the purpose of a condenser in a multi-stage ejector pump vacuum system?

9. List the three configurations for circulating seal fluid to a wet vacuum pump?
1) _____
2) _____
3) _____
10. What is the purpose of a heat exchanger in a liquid ring vacuum pump system?

11. What is the purpose of a vacuum header control loop?

12. Describe two methods of creating a vacuum break.

1) _____

2) _____
