

MEMS 0051 - Introduction to Thermodynamics

Quiz #1

Name: _____

Problem #1

A force of 100 [N] is applied to an area of 2 [m²]. What is the pressure applied to that area?

Problem #2

The density of a liquid is 1,000 [kg/m³]. What is the specific volume of that liquid?

Problem #3

Determine if the following property is intensive or extensive:

1. Temperature
2. Volume
3. Specific volume

Problem #4

Answer the following questions about the air compressor shown below. Note that the control surface is denoted with a dashed line. 1-2 word answers are fine.

- Is the given control volume a closed or open system?
- Is the air flowing through this compressor undergoing a process or cycle?
- Assume we know the pressure of the air entering the compressor. Do we know the state if we know that property?

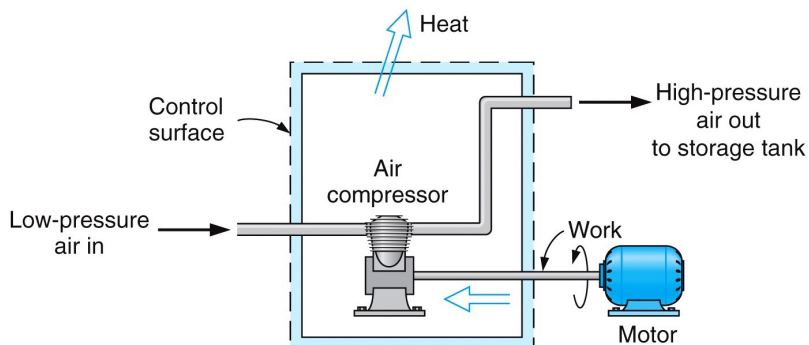


Figure 1.5
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