

Download Basic Thermodynamics

The law of entropy, or the second law of thermodynamics, along with the first law of thermodynamics comprise the most fundamental laws of physics. Entropy (the subject of the second law) and energy (the subject of the first law) and their relationship are fundamental to an understanding not just of physics, but of biology, psychology, and culture. A basic HVAC system shows the application of the Second Law of Thermodynamics. The compressor adds energy to the refrigerant, and it becomes hot, just the way a hand operated tire pump does. Since the compressed refrigerant is hotter than the air blowing across the condenser, the heat will flow to the cooler air. This is a transfer of heat ... The four laws of thermodynamics define fundamental physical quantities (temperature, energy, and entropy) that characterize thermodynamic systems at thermal equilibrium. Thermodynamics is the study of heat, "thermo," and work, "dynamics." We will be learning about energy transfer during chemical and physical changes, and how we can predict what kind of changes will occur.