Individual Paced Instruction

Educational Training Equipment for the 21st Century

Bulletin 259-3C

Hampden H-IPI-RST Program for the Refrigeration Cycle Trainer

Description

Hampden's **Model H-IPI-RST** multimedia CD is an individually paced instruction program designed to teach students about the principles, design and operation of basic refrigeration systems (based on Hampden's Refrigeration System Trainer, **Model H-RST-2**).

The narrated full color CD guides students through three tutorial units providing step-by-step explanations and demonstrations involving all aspects of the refrigeration system. Real-life applications, diagnostics and control situations are explored.

Requires Windows® 98/ME/NT/2000/XP with CD-ROM drive and multimedia capability.

Unit 1

The Refrigeration Cycle

Topics:

1. Refrigeration - Heat Transfer
2. Increasing Refrigerant Temperature in the Evaporator
3. Increasing Refrigerant Temperature and Pressure by the Compressor
4. Reducing Temperature of Refrigerant in the Condenser
5. Reducing Refrigerant Pressure and Temperature via the Metering Devices, consisting of:
   - Capillary Tube
   - Hand Expansion Valve
   - Thermostatic Expansion Valve
6. Low Pressure Receiver
7. Float Needle Valve
8. Measuring Refrigerant Flow Rate
9. Measuring Refrigerant Pressure
10. Measuring Refrigerant Temperature
11. Heat Pump Principles
12. Reversing Valve Operation

Unit 2

Definition of Refrigeration Terms

Topics:

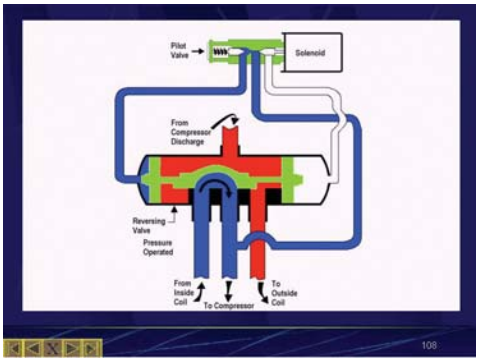
1. Heat Energy - BTU
2. Enthalpy
3. Sensible Heat
4. Latent heat
5. Saturation
6. Fahrenheit vs. Celsius
7. Superheating
8. Subcooling
9. Entropy
10. Pressure Enthalpy Diagrams
11. Refrigerating Effect
12. Capacity - Tons of Refrigeration
13. Atmospheric Pressure
14. Absolute and Gauge Pressure
15. Vacuum Pressure
16. Pressure/Temperature Chart
17. Low-side, High-side Pressure

Unit 3

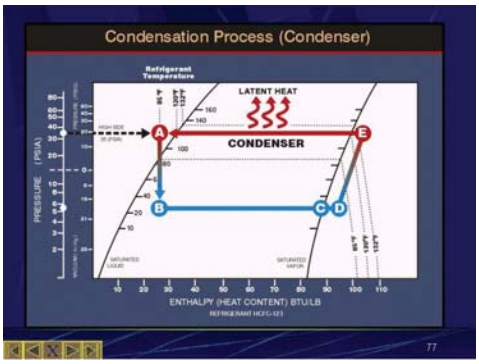
The H-RST-2 Operation

Topics:

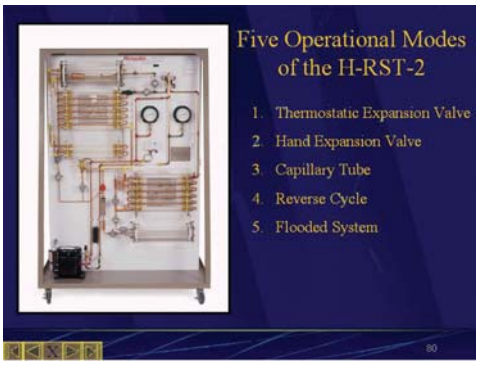
1. Refrigeration Cycle
2. Five Operating Modes
   - Thermostatic Expansion Valve
   - Hand Expansion Valve
   - Capillary Tube
   - Reverse Cycle (Heat Pump)
   - Flooded System
3. Superheat Adjustment
4. Flooded Evaporator
5. Starved Evaporator
6. Low Pressure/High Pressure Receiver



Unit 1—The Refrigeration Cycle



Unit 2—Definition of Refrigeration Terms



Unit 3—The H-RST-2 Operation

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