

Individually Paced Instruction

Educational Training Equipment for the 21st Century

Bulletin 259-100A

Hampden HC-IPI-GTAC-1 Audio/Visual Program - Air Conditioning Fundamentals

Description

The Hampden **HC-IPI-GTAC-1** is a multi-media presentation consisting of a ten module series, each module contains a CD-ROM with PowerPoint presentation with audio and workbook.

The following modules are included:

- 1. Introduction to Air Conditioning**
A basic introduction assuming no previous knowledge of the subject matter. Explains HVAC terminology and basic concepts.
- 2. Temperature/Pressure**
Covers heat and temperature/pressure relationships.
- 3. The Refrigeration Cycle**
Introduces the function of major components and shows how these components work together to constitute the refrigeration system.
- 4. Systems**
Describes various types of systems along with the compressor/condenser and evaporator curves.
- 5. Compressors**
Basic types of compressors are introduced, stressing their construction, function and capacity.
- 6. Condensers**
Covers operation of condensers within the refrigeration system, condenser capacity and how condenser problems relate to system troubleshooting.
- 7. Evaporators**
Basic evaporation process is studied. Particular attention is devoted to the process' relationship to the PH chart.
- 8. Metering Devices**
Covers the specifics of modulating and fixed orifice controls. Shows the expansion process and superheat control within the refrigeration cycle.
- 9. Electrical & Refrigerant Controls**
Introduces the operation and function of basic switches and loads in control and power circuits. Refrigerant controls are also covered.
- 10. Accessories**
System options and factory-installed components are studied. Benefits of these options, in terms of enhanced system operation, ease of installation and servicing, and user convenience are stressed.

All Hampden units are available for operation at any voltage or frequency

033104

Hampden[®]
ENGINEERING CORPORATION

Hampden HC-IPI-GTAC-2 Audio/Visual Program - Air Conditioning Advanced

Description

The **Hampden HC-IPI-GTAC-2** are the next step in the GTAC Series covering more complex topics. It is a multi-media presentation consisting of nine modules. Each module contains a CD-ROM with PowerPoint presentation with audio and workbook.

The following modules shall be included:

- 1. Refrigerant Characteristics**

This module presents the basic types and characteristics of refrigerants used in our industry, along with their benefits and disadvantages.
- 2. Refrigerant Oils**

Describes how oils are used, selected and handled. The program also discusses common problems associated with oils as they relate to the Service Technician.
- 3. Refrigerant Piping**

The goal of this module is to familiarize you with enough details to spot and modify obvious field piping errors for both single and multiple systems. Topics covered are piping requirements, sizing, insulation, support and piping loops.
- 4. System Dehydration**

Studies moisture problems and their effect on air conditioning systems, and the importance of moisture elimination during evacuation.
- 5. Charging, Recovery, Recycling and Reclamation**

The goal of this module is to train you to charge, recover and recycle holocarbon refrigerants. The presentation also focuses on tools and equipment used and non-refrigerant charging.
- 6. Installation Procedures**

All facets of installation are covered, including planning, piping, brazing, wiring, pump down, pre-start checks, start-up and safety essentials.
- 7. Heat Pump**

This module familiarizes you with the overall concept of the heat pump, its operation, benefits and disadvantages, operating economics, servicing concerns and how water-source heat pumps are being used for heat reclaim in commercial buildings.
- 8. Part Load**

Operating problems often show up at part load, rather than at full capacity. These are the problems on which this module focuses, especially concentrating on the refrigeration cycle.
- 9. Troubleshooting**

Introduces students to basic electrical and refrigeration system troubleshooting. Study includes diagnostic tools, along with troubleshooting, logic, information and charts.

All Hampden units are available for operation at any voltage or frequency

Hampden[®]
ENGINEERING CORPORATION