Basic Refrigeration and Charging Procedures Training Program

Purpose of Training

A solid foundation in air conditioning and refrigeration principles is crucial to the proper installation, and service of modern systems. Your continued growth and advancement in the industry depends on mastery of these fundamentals.
This course will provide attendees with the knowledge to accurately perform system installation, basic repair, and the information necessary to properly charge modern equipment.

Course Content

Application of Pressures, States, and Conditions

- Compressor Discharge
- Condenser Inlet
- 100% Saturated Vapor Point
- 100% Saturated Liquid Point
- Condenser Outlet
- TXV Inlet
- Middle of Evaporator
- Saturated Vapor Point
- Evaporator Outlet
- Compressor Inlet

Pressure Drop

- Friction Pressure Losses
- Static Pressure Losses

Capillary Tubes

- Sizing
- High Heat Loads
- Low Heat Loads
- Service

Automatic Expansion Valves (AEV)

- Charging Procedures

Thermostatic Expansion Valve (TEV)

- Remote Bulb Pressure
- Evaporator Pressure and Spring Pressure
- Additional Pressure
- Color Codes
- Special Application TXVs
  - Externally Equalized Valves
  - Maximum Operating Pressure
  - Balanced Port TXVs
- Selection Procedures

Charging TEV / Receiver / Sightglass Refrigeration Systems

- Charging Rules

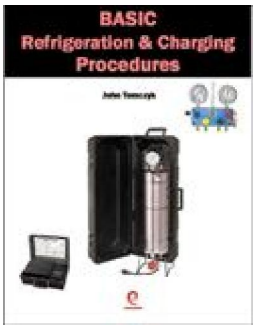
Charging Capillary Tube or Fixed Orifice Refrigeration Systems

- Charging from a Vacuum (weigh-in)

Charging Capillary Tube or Fixed Orifice Air Conditioning Systems

- Measuring Duct Velocity
- Superheat Charging Curves
- Superheat Curve Theory
- Charging Capillary Tube-Cooling Mode Only
- Superheat Method — Capillary Tube System

Training Manual



Refrigerant pressures, states and conditions are covered, as well as how they apply to the refrigeration system. Vapor pressures, sub-cooling, superheat, saturation, latent heat, and sensible heat are explained and applied to the refrigeration cycle. Basic system components, their functions and applications are included. Detailed explanations of each point in the refrigeration cycle will clarify questions the reader may have.

An end of course assessment - certification is available to validate if attendees comprehend the course materials.

Additional Information