bryant Heating & Cooling Systems

WHATEVER IT TAKES

Bryant Academy

2013 Training Materials Catalog

Service, Controls, and HVAC System Design

Theory, Skills and Equipment Training

for teaching, self-study and presentations

BRYANT ACADEMY

Making Comfort an American Tradition.

Times were simpler back in 1904. The Wright Brothers had just made their historic first flight at Kitty Hawk. The first comic book was invented. And a soon-to-be American tradition—the ice cream cone—was introduced at the World's Fair in St. Louis.

Those were the times that inspired Charles Bryant to lay the foundations for another American tradition: simple, reliable comfort.

From those early gas-fired boilers to today's sophisticated home comfort systems, Bryant's standard for quality has remained the same: unsurpassed comfort and worry-free operation.

That's why the tradition Charles Bryant started is about more than heating and cooling. It's about earning the trust of customers across the country by taking care of their indoor comfort needs. Yesterday, today and tomorrow.

Whatever it takes.

Ensuring Quality and Reliability

Building a tradition of simple, reliable comfort doesn't happen by accident. It happens by first setting the highest performance standards in the industry… and then putting every system through a grueling testing process. In fact, the testing standards at Bryant far exceed the requirements established by the certifying organizations for the heating and cooling industry.

Table of Contents

BRYANT ACADEMY

ABC's of Air Conditioning

Basic training for non-technical personnel covering: Body Comfort, The Air Cycle, Refrigeration Cycle, The Heat Pump and Air Conditioning Equipment.

CD-ROM PowerPoint with Audio (GT16-04)..... 020-410 ..... 96.25
Book to GT16-02 (GT16-01)..... BDP-020-419 ..... 15.00

GTAC 1 Air Conditioning (Basic Theory)

Introduction to Air Conditioning (GTAC1-1)

A basic introduction assuming no previous knowledge of the subject matter. Explains HVAC terminology and basic concepts.

Book Only (GTAC1-101)..... 022-001 ..... 7.75
†CD-ROM PPT with Audio (GTAC1-1CD) ..... 022-040 ..... 96.25

Temperature and Pressure (GTAC1-2)

Covers heat transfer and temperature/pressure relationships. Introduces the PH (pressure/enthalpy) chart.

Book Only (GTAC1-102)..... 022-003 ..... 7.75
†CD-ROM (GTAC1-2CD) ..... 022-041 ..... 96.25

The Refrigeration Cycle (GTAC1-3)

Introduces the function of major components and shows how these components work together to constitute the refrigeration system.

Book Only (GTAC1-103)..... 022-005 ..... 7.75
†CD-ROM (GTAC1-3CD) ..... 022-042 ..... 96.25

Systems (GTAC1-4)

Describes various types of systems along with the compressor/condenser and evaporator curves.

Book Only (GTAC1-104)..... 022-007 ..... 7.75
†CD-ROM (GTAC1-4CD) ..... 022-043 ..... 96.25

Compressors (GTAC1-5)

Basic types of compressors are introduced, stressing their construction, function, and capacity.

Book Only (GTAC1-105)..... 022-009 ..... 7.75
†CD-ROM (GTAC1-5CD) ..... 022-044 ..... 96.25

Condensers (GTAC1-6)

Covers operation of condensers within the refrigeration system, condenser capacity and how condenser problems relate to system troubleshooting.

Book Only (GTAC1-106)..... 022-011 ..... 7.75
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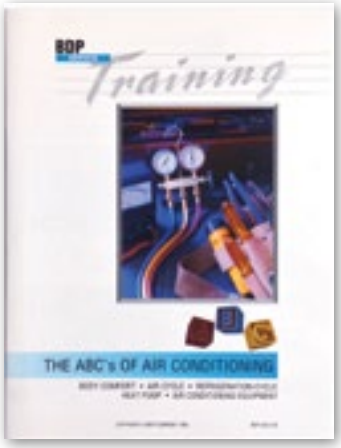


Evaporators (GTAC1-7)

Basic evaporation process is studied. Particular attention is devoted to the process's relationship to the PH chart.

Book Only (GTAC1-107)..... 022-013 ..... 7.75
†CD-ROM (GTAC1-7CD) ..... 022-046 ..... 96.25

Metering Devices (GTAC1-8)

Covers the specifics of modulating and fixed orifice refrigerant control. Shows the expansion process and superheat control within the refrigeration cycle.

Book Only (GTAC1-108)..... 022-015 ..... 7.75
†CD-ROM (GTAC1-8CD) ..... 022-047 ..... 96.25

Electrical & Refrigerant Controls (GTAC1-9)

Introduces the operation and function of basic switches and loads in control and power circuits. Refrigerant flow controls are also covered.

Book Only (GTAC1-109)..... 022-017 ..... 7.75
†CD-ROM (GTAC1-9CD) ..... 022-048 ..... 96.25

Refrigeration Cycle Accessories (GTAC1-10)

Refrigerant system options and accessories are explained. Benefits of these options in terms of enhanced system operation, ease of installation and servicing, and user convenience are stressed.

Book Only (GTAC1-110)..... 022-019 ..... 7.75
†CD-ROM (GTAC1-10CD) ..... 022-049 ..... 96.25

GTAC-1 Book

Bound copy contains one each of the GTAC-1 books listed here, Modules 1 through 10.

Book Only (GTAC1-BK)..... 022-025 ..... 58.75

Bundle of 10 CD-ROM Presentations (PowerPoint)

Contains one each of the GTAC-1 CD-ROM presentations listed here, Modules 1 through 10.

†Set of 10 CD-ROMs (GTAC1-CD)..... 022-024 ..... 815.00

†CD ROM contains a PowerPoint presentation which is editable and can be used for instructor-led instruction and a self-paced flash version of the PowerPoint with audio which can be used for individual instruction. Both versions work with Windows 7 products. The flash version will not work on most Apple products. To get a version which can be used on learning management systems (LMS) contact www.bryantabookstore@carrier.utc.com.

GTAC 2 Air Conditioning (Applied)

Refrigerant Characteristics (GTAC2-1A)

Discuss refrigerant types, characteristics, and oil compatibility of pure azeotropes, and zeotrope blends. It focuses on proper application and safe handling for new, replacement refrigerants used in air conditioning and refrigeration systems.

Book Only (GTAC2-101A)..... 022-131 ..... 7.75
†CD-ROM (GTAC2-1CD) ..... 022-080 ..... 96.25

Refrigerant Oils (GTAC2-2A)

Covers oils used in air conditioning systems and how they are properly applied. Includes compatibility with new, replacement refrigerants and changeout procedures.

Book Only (GTAC2-102A)..... 022-133 ..... 7.75
†CD-ROM (GTAC2-2CD) ..... 022-081 ..... 96.25

Refrigerant Piping (GTAC2-3)

Familiarizes you with enough detail to spot and modify obvious field piping errors. Topics covered are piping requirements, sizing, insulation, and support and piping loops.

Book Only (GTAC2-103A)..... 022-105 ..... 7.75
†CD-ROM (GTAC2-3CD) ..... 022-082 ..... 96.25

System Dehydration (GTAC2-4)

Discusses moisture problems and their effect on air conditioning systems, and the importance of moisture elimination during evacuation.

Book Only (GTAC2-104)..... 022-107 ..... 7.75
†CD-ROM (GTAC2-4CD) ..... 022-083 ..... 96.25

Charging, Recovery, Recycling and Reclamation (GTAC2-5A)

Explains how to charge, recover and recycle traditional and replacement halocarbon refrigerants. It also focuses on tools and equipment used.

Book Only (GTAC2-105A)..... 022-139 ..... 7.75
†CD-ROM (GTAC2-5CD) ..... 022-084 ..... 96.25

Installation Procedures (GTAC2-6)

All facets of refrigeration system installation are covered, including planning, piping, brazing, wiring, pump down, prestart checks, and start-up and safety essentials.

Book Only (GTAC2-106)..... 022-111 ..... 7.75
†CD-ROM (GTAC2-6CD) ..... 022-085 ..... 96.25

Heat Pumps (GTAC2-7)

Covers the overall concept of the heat pump, its operation, benefits and disadvantages, operating economics, servicing concerns and how water-source heat pumps are used for heat reclaim in commercial buildings.

Book Only (GTAC2-107)..... 022-113 ..... 7.75
†CD-ROM (GTAC2-7CD) ..... 022-086 ..... 96.25

Part Load (GTAC2-8)

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

Book Only (GTAC2-108)..... 022-115 ..... 7.75
†CD-ROM (GTAC2-8CD) ..... 022-087 ..... 96.25

Troubleshooting (GTAC2-9)

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

Book Only (GTAC2-109)..... 022-117 ..... 7.75
†CD-ROM (GTAC2-9CD) ..... 022-088 ..... 96.25

GTAC Troubleshooter

This diagnostic tool helps isolate common residential problems quickly and incorporates both the Basic Symptom Analysis and Refrigerant-side Troubleshooting form used in GTAC-9.

Diagnostic Tool (GTAC2-TS) ..... 022-050 ..... 6.25

GTAC-2 Book

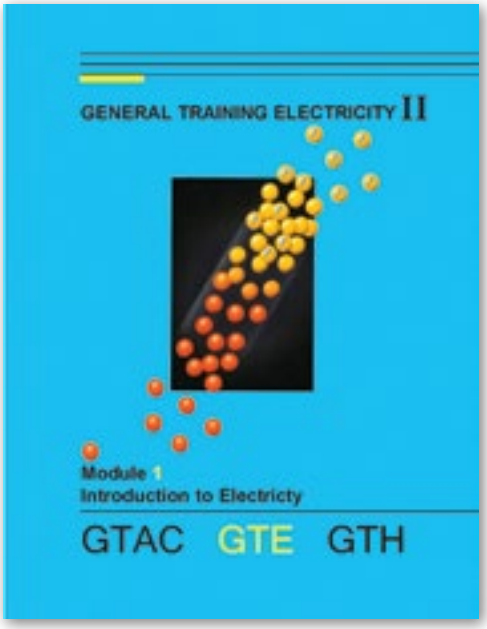
Bound copy contains one each of the GTAC-2 Books listed here, Modules 1 through 9.

Book only (GTAC2-BK)..... 022-125 ..... 58.75

Bundle of 9 CD-ROM Presentations (PowerPoint)

Contains one each of the GTAC-2 CD-ROM presentations listed here, Modules 1 through 9.

†Set of 9 CD-ROMs (GTAC2-CD)..... 022-089 ..... 731.50



GTE Electricity (Basic Theory)

Introduction to Electricity (GTE2-1)

Introduces electrical terminology and basic concepts to students with limited knowledge of electricity. Covers Ohm's Law, power, series and parallel circuits.

Book Only (GTE2-101)..... 022-201 ..... 7.75
†CD-ROM (GTE2-1CD) ..... 022-250 ..... 96.25

Electrical Components and Their Symbols (GTE2-2)

Introduces basic AC, magnetism, and common electrical components. Begins the coverage of wiring diagrams and their symbols by constructing a very basic circuit diagram.

Book Only (GTE2-102)..... 022-203 ..... 7.75
†CD-ROM (GTE2-2CD) ..... 022-251 ..... 96.25

Wiring Diagrams (GTE2-3)

Discusses safety practices and introduces additional electrical components. Step-by-step construction of a simplified wiring diagram; covering power, control, and load circuits for a typical packaged air conditioner with electric heat.

Book Only (GTE2-103)..... 022-205 ..... 7.75
†CD-ROM (GTE2-3CD) ..... 022-252 ..... 96.25

Wiring Diagram Exercises (GTE2-4)

Covers step-by-step construction of a wiring diagram for a heat pump to teach more advanced diagram-reading skills and control circuit concepts.

Book Only (GTE2-104)..... 022-207 ..... 7.75
†CD-ROM (GTE2-4CD) ..... 022-253 ..... 96.25

Electric Meters and Their Uses (GTE2-5)

Discusses the construction of various types of meters and explains their applications. Sample problems illustrate the use of meters in electrical troubleshooting and testing.

Book Only (GTE2-105)..... 022-209 ..... 7.75
†CD-ROM (GTE2-5CD) ..... 022-254 ..... 96.25

Alternating Current Fundamentals (GTE2-6)

Expands on basic AC concepts covered in Modules 1 and 2 as the basis for understanding AC motors and AC power. Covers basic concepts of motors and generators, capacitors, phase shift, and power distribution systems.

Book Only (GTE2-106)..... 022-211 ..... 7.75
†CD-ROM (GTE2-6CD) ..... 022-255 ..... 96.25

Motor Fundamentals and Motor Protection (GTE2-7)

Covers basic theory and operation of common single-phase and three-phase AC induction motors, including motor starting circuits. Describes the various types of protective devices used with motors.

Book Only (GTE2-107)..... 022-213 ..... 7.75
†CD-ROM (GTE2-7CD) ..... 022-256 ..... 96.25

Electronic Devices and Circuits (GTE2-8)

Discusses basic concepts, packaging, and troubleshooting of electronic circuits used in comfort air conditioning. Covers semiconductors, timing and sensing devices, and the use of microprocessor controls in comfort applications.

Book Only (GTE2-108)..... 022-215 ..... 7.75
†CD-ROM (GTE2-8CD) ..... 022-257 ..... 96.25

Electrical Troubleshooting (GTE2-9)

Describes and illustrates techniques for troubleshooting electrical and electronic circuits with a focus on control circuits and motors.

Book Only (GTE2-109)..... 022-217 ..... 7.75
†CD-ROM (GTE2-9CD) ..... 022-258 ..... 96.25

GTE2 Book

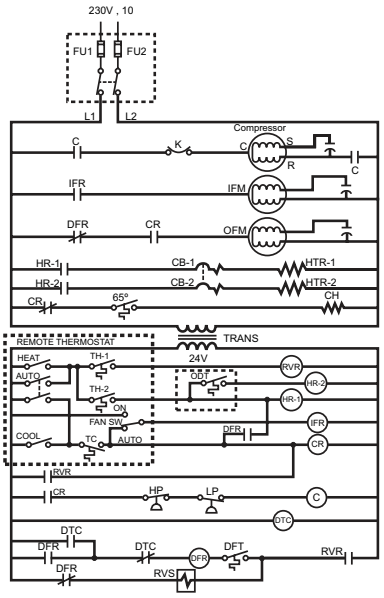
Bound copy contains one each of the GTE2 Books listed here, Modules 1 through 9.

Book Only (GTE2-BK)..... 022-225 ..... 58.75

Bundle of 9 CD-ROM Presentations (PowerPoint)

Contains one each of the GTE2 CD-ROM presentations listed here, Modules 1 through 9.

†Set of 9 CD-ROMs (GTE2-CD)..... 022-259 ..... 731.50



†CD ROM contains a PowerPoint presentation which is editable and can be used for instructor-led instruction and a self-paced flash version of the PowerPoint with audio which can be used for individual instruction. Both versions work with Windows 7 products. The flash version will not work on most Apple products. To get a version which can be used on learning management systems (LMS) contact www.bryantabookstore@carrier.utc.com.

GTH Heating

Introduction to Gas Heating (GTH2-1)

Introduces students to four of eight foundation blocks of heating: 1) Heat; 2) Molecules, Heat and Temperature; 3) Heat Transfer; 4) Pressure.

Book Only (GTH2-101)..... 022-301 ..... 7.75
†CD-ROM (GTH2-1CD)..... 022-340 ..... 96.25

Principles of Gas Combustion (GTH2-2)

Introduces the remaining four foundation blocks of heating: 5) Gas Properties; 6) Combustion Theory; 7) Practical Combustion; and 8) Efficiency.

Book Only (GTH2-102)..... 022-303 ..... 7.75
†CD-ROM (GTH2-2CD)..... 022-341 ..... 96.25

Gas Furnaces (GTH2-3)

Students learn basic furnace design, gas system components, furnace controls, and system controls and components.

Book Only (GTH2-103)..... 022-305 ..... 7.75
†CD-ROM (GTH2-3CD)..... 022-342 ..... 96.25

Gas Burners (GTH2-4)

Expands on basic concepts. Includes: theoretical flame characteristics; burner design; actual flame characteristics; combustion system; and pilot burners.

Book Only (GTH2-104)..... 022-307 ..... 7.75
†CD-ROM (GTH2-4CD)..... 022-343 ..... 96.25

Gas Controls (GTH2-5)

Focuses on controlled combustion process: gas controls; manual and automatic valves; and gas regulators.

Book Only (GTH2-105)..... 022-309 ..... 7.75
†CD-ROM (GTH2-5CD)..... 022-344 ..... 96.25

Gas Ignition Systems (GTH2-6)

Explains the three types of ignition systems commonly used: standing pilot; re-ignition pilot; and direct burner ignition.

Book Only (GTH2-106)..... 022-311 ..... 7.75
†CD-ROM (GTH2-6CD)..... 022-345 ..... 96.25

Gas Safety & Operating Controls (GTH2-7)

Covers basic theory and operation of common safety controls, operating controls, and system controls used in gas furnaces.

Book Only (GTH2-107)..... 022-313 ..... 7.75
†CD-ROM (GTH2-7CD)..... 022-346 ..... 96.25

Furnace Installation Practices (GTH2-8)

Students learn application principles: planning; designing; and selecting equipment, as well as proper gas-piping techniques and installation practices.

Book Only (GTH2-108)..... 022-315 ..... 7.75
†CD-ROM (GTH2-8CD)..... 022-347 ..... 96.25

Ventilation & Combustion Air (GTH2-9)

Introduces terminology of Category I vent design basics, vent design and combustion air, as well as Category IV venting and combustion air.

Book Only (GTH2-109)..... 022-317 ..... 7.75
†CD-ROM (GTH2-9CD)..... 022-348 ..... 96.25

Gas Troubleshooting (GTH2-10)

Covers basic troubleshooting practices. Covers: basic adjustments; gas input; primary air; efficiency checks; furnace problems; how to identify and correct the operation and function of basic switches and loads.

Diagnostic Tool (GTH2-110)..... 022-319 ..... 7.75
†CD-ROM (GTH2-10CD)..... 022-349 ..... 96.25

GTH-2 Book

Bound copy contains one each of the GTH Books listed here, Modules 1 through 10.

Book only (GTH2-BK)..... 022-325 ..... 58.75

Bundle of 10 CD-ROM Presentations (PowerPoint)

Contains one each of the GTH CD-ROM presentations listed here, Modules 1 through 10.

†Set of 10 CD-ROMs (GTH2-CD)..... 022-320 ..... 815.00

Basic Refrigeration Cycles

Covers Reciprocating, Centrifugal, and Absorption Cycles with details on related compressors and systems. Discusses principal components of each cycle and how they function.

Book (GT56-01)..... 020-528 ..... 10.00
Interactive CD-ROM Disk, Instructions/Book (GT56-03)
..... 020-530 ..... 96.25

(This interactive training program has options for self-study or classroom facilitation of Basic Refrigeration Cycles. Student self-study section includes skills checks, remediation, and testing. Instructor may navigate through graphics and control the multimedia features as required.) This program is not compatible with Windows® 7.

Reciprocating Cycle Flowchart (full-color 8-1/2 x 11)
(GT56-04)..... 06-020-531..... 2.00/ea

Inside the Heat Pump

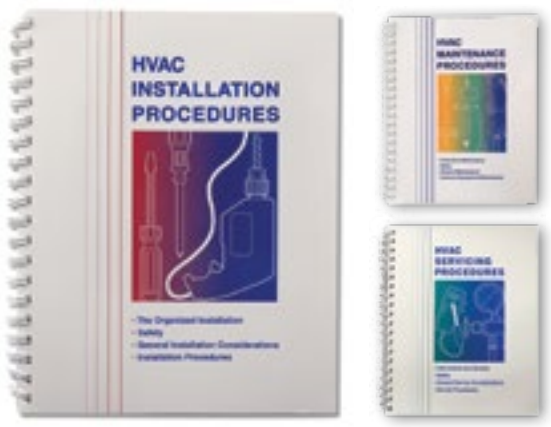
Video-based program includes: theory of operation, components and their function, selection and installation techniques.

Book (GT59-01)..... 020-537 ..... 10.00
CD-ROM Electronic Slide Presentation (GT59-02CD)
..... 020-539 ..... 96.25

A Guide for Residential Heat Pumps

Covers all aspects of residential heat pump installation, including load sizing, application and installation.

Book (GT14-01)..... 020-417 ..... 6.25



HVAC Service Handbooks

HVAC Servicing Procedures

No service vehicle should be without it! This rugged, 200-page bound book is designed to be a handy, on-the-job reference. Printed on specially coated wipe-clean paper, it includes four major sections: Instruments and Devices; Safety; General Service Considerations; and Service Procedures; plus a Full Glossary and set of Pressure Temperature Charts. The CD version makes a great instructor's tool with its hypertext and features like quizzes and supplemental reference charts.

Handbook (SK29-01) ..... 020-040 ..... 34.00
CD-ROM Hypertext (SK29-01CD) ..... 020-039 ..... 127.50

HVAC Installation Procedures

Every HVAC installer should have this rugged, 200-page, on-the-job reference book. Printed on specially coated paper, it includes sections on hand and power tools, piping practices, electrical hook-ups and duct installation. Additional sections cover installation of split systems, furnaces, packaged heating and cooling products. Valuable start-up and checkout sheets are included. The hypertext version on CD is an excellent teaching tool and includes additional features such as ductwork sizing, metric conversions, electrical symbols and more.

Handbook (SK32-01) ..... 020-038 ..... 34.00
CD-ROM (Hypertext SK32-01CD) ..... 020-037 ..... 127.50

HVAC Maintenance Procedures Handbook

This reference rounds out our "procedures handbook" trilogy and focuses on practical maintenance techniques. Features the same rugged design as the earlier Servicing and Installation Procedures volumes and is intended to serve as an on-the-job reference. The book's eight sections include well-illustrated, step-by-step maintenance information in the following areas: Preventive, Safety, General, Electrical, Gas Furnace, Oil Furnace, Split and Packaged System and Accessories maintenance.

Handbook (SK35-01) ..... 020-093 ..... 34.00
CD-ROM PowerPoint Presentation (SK35-01CD)† ..... 020-094 ..... 127.50

NATE Study Guides

Core Study Guide

Review of topics that will be covered in the NATE Core Tests. Core topics include: electricity, including static electricity, simple circuits, circuit parts, use of electrical meters, circuits, electromagnetism; motors; piping; refrigeration; and customer relations.

Book ..... 0200-003 ..... 5.00

Air Conditioning Study Guide

Review of topics that will be covered in the NATE Air Conditioning Tests. Air Conditioning topics include: temperature, humidity, air circulation, thermodynamics, meters/gauges, compressors, condensers, evaporators, superheat and subcooling.

Book ..... 0200-004 ..... 5.00

Gas Furnace Study Guide

Review of topics that will be covered in the NATE Gas Furnace Tests. Gas Furnace topics include: types of gas heating systems, gas valves, venting, installation, BTU ratings, blower motors, electricity, limit switches, duct construction, thermostat, start-up and checking a gas heater, humidifiers, electric controls and draft.

Book ..... 0200-005 ..... 5.00

Heat Pump Study Guide

Review of topics that will be covered in the NATE Heat Pump Tests. Heat Pump topics include: temperature, humidity, air circulation, thermodynamics, meters/gauges, compressors, condensers, evaporators, superheat and subcooling.

Book ..... 0200-006 ..... 5.00

An online NATE Core Prep Class is also available. Go to website and find under classes www.CarrierUniversity.com.
Study Guides are included with class tuition.

†CD ROM contains a PowerPoint presentation which is editable and can be used for instructor-led instruction and a self-paced flash version of the PowerPoint with audio which can be used for individual instruction. Both versions work with Windows 7 products. The flash version will not work on most Apple products. To get a version which can be used on learning management systems (LMS) contact www.bryantabookstore@carrier.utc.com.

Service Six Pack 1

One DVD with each of the six basic service skills titles listed below.
DVD (SK20-06DVD) ..... 020-394 ..... 150.00

Electrical Troubleshooting
Follows a practical step-by-step path through the complexities of today's electrical circuitry. Graphic and easy-to-grasp, the materials teach the skills needed to find and correct electrical system problems.
Book (SK14-01)..... 020-057 ..... 5.25
†CD-ROM (SK14-02CD) ..... 020-625 ..... 56.25

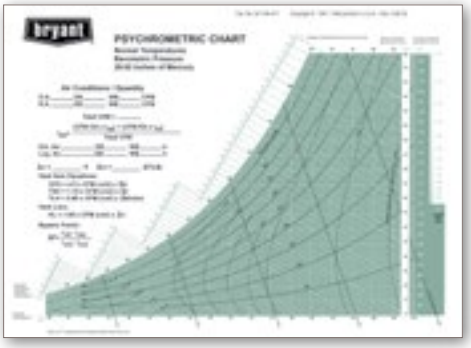
Residential Condensing Unit Replacement
Replacement skills are a must for profitably tapping today's growing replacement market. This program graphically shows the steps for successfully replacing a residential condensing unit.
Book (SK15-01)..... 020-059 ..... 5.25
†CD-ROM (SK15-02CD) ..... 020-626 ..... 56.25

Hermetic Compressor Replacement
First, the technician learns how to determine if the compressor has failed, and then he is taken, step-by-step, through a successful replacement procedure. Additionally, start-up and checkout of the system is included.
Book (SK16-01)..... 020-061 ..... 5.25
†CD-ROM (SK16-02CD) ..... 020-627 ..... 56.25

Brazing
Brazing is a primary skill for a successful service technician. This module covers the basics of solder alloy types, heat ranges and fuels needed, along with equipment care and safety tips.
Book (SK17-01)..... 020-063 ..... 5.25
†CD-ROM (SK17-02CD) ..... 020-628 ..... 56.25

Evacuation and Charging
Often, experienced as well as beginning service personnel do not understand the technique of evacuation and charging. This module shows how to properly evacuate a system. Two methods of charging are presented, as well.
Book (SK18-01)..... 020-065 ..... 5.25
†CD-ROM (SK18-02CD) ..... 020-629 ..... 56.25

Air Measurement
Improper airflow often causes comfort system problems. Here, technicians are shown how to measure airflow using the heat rise method. They will gain the skills necessary to successfully troubleshoot system problems.
Book (SK19-01)..... 020-067 ..... 5.25
†CD-ROM (SK19-02CD) ..... 020-630 ..... 56.25



Service Six Pack 2

One DVD with each of the six basic service skills titles listed below.
DVD (SK7-06DVD) ..... 020-392 ..... 150.00

Metering Devices
Three modern metering devices are shown operating in an air conditioning system. Includes common usage problems and troubleshooting situations.
Book (SK1-01)..... 020-473 ..... 5.25
†CD-ROM (SK1-02CD) ..... 020-631 ..... 56.25

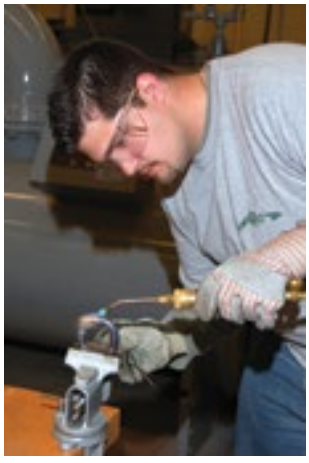
Add-On Air Conditioning Installation
This program shows how to install an "Add-On" split system air conditioner. A natural enhancement to the training found in 6-Pack I.
Book (SK2-01)..... 020-475 ..... 5.25
†CD-ROM (SK2-02CD) ..... 020-632 ..... 56.25

Gas Furnace Replacement
Students learn how to remove and replace an existing gas furnace with a mid-efficiency model. Emphasis is on start-up and checkout of the new system.
Book (SK3-01)..... 020-477 ..... 5.25
†CD-ROM (SK3-02CD) ..... 020-633 ..... 56.25

Advanced Troubleshooting
This program builds on the training found in the 6-Pack I presentation. It takes the technician through more complex problems using the proven hopscotch method.
Book (SK4-01)..... 020-479 ..... 5.25
†CD-ROM (SK4-02CD) ..... 020-634 ..... 56.25

Electrical Test Instruments
An overview of two of the most-used instruments in the technician's tool kit, the volt-ohmmeter and the clamp-on ammeter. Troubleshooting situations are emphasized.
Book (SK5-01)..... 020-481 ..... 5.25
†CD-ROM (SK5-02CD) ..... 020-635 ..... 56.25

Air Conditioning Tune-Up
Here we cover the steps required to check out and tune up an air conditioning system. These skills will be highly useful in this growing segment of service/maintenance business.
Book (SK6-01)..... 020-483 ..... 5.25
†CD-ROM (SK6-02CD) ..... 020-636 ..... 56.25



Cooling Skills Programs

Metering Devices – Fixed-Orifice and TXV

This training supports Bryant's residential platform of products that use TXV metering devices in all evaporator furnace coils and fan coils. This training will explain how the metering device operates in an air conditioning system and how the TXV with its variable orifice is able to provide superior system performance. The Performance PLUS Simulator is an interactive tool that provides the user with the ability to access product information from one source. Product data such as wiring diagrams, parts list, installation instructions, service videos and the ability to display parts and where they are located within the product are available with easy navigation tools.

Book (GT-100) ..... 06-C20-641 ..... 7.75
CD-ROM PowerPoint™ Presentation with Audio (GT-100CD) ..... 06-C20-642 ..... 96.25
Performance PLUS Simulator CD-ROM (GT-100CD+) ..... 06-C20-643 ..... 100.00

Charging Procedures for Residential Condensing Units

Covers superheat and subcooling charging methods and procedures for correct system airflow using the Superheat/Subcooling Charging Calculator/Slide Rule.

Book (SK28-01) ..... 020-122 ..... 12.50
Superheat/Subcooling Charging Calculator/Slide Rule (HCFC-22 only) (GT24-01) 5.50

Proper Condensate Drain Connections

Prevent stained ceilings and ruined furniture caused by backed-up condensate water. Shows how to prevent and eliminate these problems by understanding why they occur, dimensions for drain trap, as well as do's and don'ts of installing condensate drains.

DVD (PCD-02DVD) ..... 020-263 ..... 37.50

Leak Testing Residential and Light Commercial Refrigeration Systems

This basic skills program covers equipment and techniques used to perform refrigerant leak testing in residential and light commercial refrigerant equipment. Safety, environmental and economic concerns are stressed throughout.

Book (SK34-01) ..... 020-095 ..... 7.75
CD-ROM Slide Presentation (SK34-02CD) ..... 020-097 ..... 96.25

Rooftop Operation and Maintenance

Designed to guide building owners and operators through the service and maintenance requirements of packaged heating and cooling systems 3 tons and up. Identifies common problems and stresses planned maintenance and maintenance scheduling. Covers Application and Operation, Installation Pitfalls, Maintenance Schedules and Maintenance functions the owner/operator will perform and Maintenance functions an air conditioning service company will perform.

Book (GT60-01) ..... 020-540 ..... 7.75
CD-ROM PPT with Audio (GT60-02CD) ..... 020-542 ..... 96.25

Rooftop Economizers

Covers different types of economizers and their operation, including the functions of their motors, dampers, and controls.

Book (GT44-01) ..... 020-504 ..... 7.75
CD-ROM PowerPoint Presentation with Audio ... 020-244 ..... 96.25

Troubleshooting the Economizer

Covers procedures for troubleshooting economizers and a brief review of operation of the major components and controls.

Book (GT45-01) ..... 020-506 ..... 7.75

Rooftop Air Test & Balance

Covers the basics of air balancing for constant volume systems, a look at tools and instruments commonly used and follows through a typical balancing procedure.

Book (GT46-01) ..... 020-508 ..... 7.75

Heating Skills Programs

Condensing Furnace Installation, Start-Up & Checkout

This program takes technicians through various aspects of condensing furnace installation from initial survey of the job, the actual installation and the all-important start-up and checkout procedures.

Book (SK31-01) ..... 020-076 ..... 12.50

Clocking a Gas Meter

"Clocking" the meter is one of the more commonly used methods for determining if a furnace or any gas-fired appliance is delivering its full rated input. This video shows how to perform this procedure.

DVD (SK36-02DVD) ..... 020-264 ..... 37.50

Measuring Flame-Sensing Current

Modern gas furnaces use the principle of flame rectification to determine if there is an adequate burner flame for safe operation. This video shows how to determine if the flame-sensing circuits are operating correctly.

DVD (SK37-02DVD) ..... 020-265 ..... 37.50

Hydronic Heating Systems

Use to plan, size, lay out and install a hydronic heating system in residential and light commercial applications.

Book (GT31-01) ..... 020-454 ..... 7.00

Oil Heat

This program covers aspects of oil heat technology that are of interest to persons who install and service oil-fired residential heating products. After an introduction section, oil combustion fundamentals and oil burners are covered. Oil heating system topics include fuel supply systems and proper venting. A section on annual maintenance emphasizes the use of an annual maintenance checklist, which is provided. The troubleshooting section covers commonly encountered system problems.

Book (GT57-02) ..... 020-535 ..... 10.00
CD-ROM PowerPoint with Audio (GT57-01CD) .. 020-527 ..... 96.25

Troubleshooting Series

Troubleshooting Residential Cooling Systems

Covers common problems encountered with residential cooling systems and how to correct them.

Book (SK22-01) ..... 020-107 ..... 15.00
†CD-ROM (SK22-02CD) ..... 020-124 ..... 96.25

†CD ROM contains a PowerPoint presentation which is editable and can be used for instructor-led instruction and a self-paced flash version of the PowerPoint with audio which can be used for individual instruction. Both versions work with Windows 7 products. The flash version will not work on most Apple products. To get a version which can be used on learning management systems (LMS) contact www.bryantabookstore@carrier.utc.com.

Troubleshooting Heat Pumps (Residential-Light Commercial)

Covers preliminary inspection, insufficient air, improper defrost, excessive electrical consumption, proper refrigerant charge and special components.

Book (SK24-01) ..... 020-111 ..... 15.00
†CD-ROM PowerPoint Presentation w/Audio (SK24-02CD)
..... 020-129 ..... 96.25

Troubleshooting Furnaces

Covers common problems encountered with gas furnaces and how to correct them.

Book (SK23-01)..... 020-109 ..... 15.00
CD-ROM (SK23-02CD) ..... 020-128 ..... 96.25

Troubleshooting Rooftops

Helps technicians to troubleshoot rooftop units and to identify common problems. Use of a maintenance log and diagnostic trend chart is stressed to help technicians recognize abnormal operating conditions.

Book (SK30-01)..... 020-125 ..... 15.00
CD-ROM PowerPoint Presentation w/Audio (SK27-02CD)
..... 020-127 ..... 96.25

Standard Service Techniques

Air Properties and Measurement

Analyzes and defines the properties of air, illustrates use of a psychrometric chart, discusses air measurement procedures and instruments, reviews fan laws and airflow calculations to solve air side problems.

Book (SST-03)..... 020-253 ..... 9.00
†CD-ROM (SST-04PP)..... 020-211 ..... 96.25

Computer-Based Training

HVAC Performance PLUS Simulator

Replace costly, old-fashioned mechanical trainers with this exciting, state-of-the-art interactive computer simulation of an air conditioning system. Configure the system the way you want it by changing the type of compressor or metering device, or the system tonnage. Change ambient conditions and system-operating parameters, then observe, record, and compare the effects on system temperatures, pressures, efficiencies, refrigerant states, and power consumption. System responses can be shown and printed using pressure/enthalpy (PH) graphing and data tables. Contains a narrated introduction to the simulator itself, including program features, navigation, suggested uses, and additional training resources. Includes one student workbook containing exercises with suggested inputs to simulate system responses in certain conditions. An outstanding teaching aid for instructors and a valuable learning tool for students from entry-level to experienced technician. Also includes two FREE simulated interactive service calls, testing the student's ability to diagnose and correct mechanical and electrical circuit malfunctions. Additional Performance PLUS Troubleshooting CD's are available. (020-547).

Performance PLUS Simulator CD-ROM (GT65-03A)
..... 020-546 ..... 350.00
Student Workbooks (GT65-01)
..... 020-549 ..... 15.00

HVAC Performance PLUS Troubleshooting Practice

The HVAC Performance PLUS Troubleshooting Practice Series offers students the ability to refine their troubleshooting skills. CD contains practice sessions with a selection of 11 real-life service problems where students use a virtual toolbox to diagnose and correct mechanical refrigeration cycle, air system or electrical circuit malfunctions. Student progress is monitored and recorded as they progress through each troubleshooting scenario. Ideal for self-study or classroom instruction.

Series 1 CD-ROM with Instructor Guide (GT69-01A)
..... 020-547 ..... 50.00

Diagnosing and Preventing Hermetic Compressor Failures

This interactive program provides training to develop skills that enable technicians to troubleshoot problems with welded hermetic compressors. It describes the two types of compressors covered in this program (scroll and reciprocating), including how they operate and the normal and abnormal sounds they make. Students use tests and measurements to isolate compressor faults. The basic troubleshooting process emphasizes finding the root cause of the compressor problem. After completing these sections, students are required to solve 10 real-life troubleshooting problems. The large number of job aids and other useful information in the comprehensive HELP section make student success easy. This program is not compatible with Windows® 7.

Interactive CD-ROM w/ Instructor Guide (GT64-03)
..... 020-545 ..... 50.00
Student Workbook (GT64-01) ..... 020-551 ..... 22.50

Residential Split Systems Products

280ANV Evolution® Extreme Heat Pump Unit

Training covers 280ANV high-efficiency heat pump condensing units. Covers familiarization, controls, operation, start-up, maintenance and troubleshooting.

Book (25VNA-01) ..... 06-B20-665 ..... .11.50
†CD-ROM ..... 06-B20-666 ..... 90.00

Residential Control System

SYSTXBB Evolution® Connex™ Control

The purpose of this program is to familiarize you with this product, its features, and its operation so you can install and start-up this Control. This training covers the Evolution® Connex™ Control.

Book ..... 06-B20-683 ..... 15.00
CD-ROM PPT ..... 06-B20-684 ..... 90.00

Residential Control System

SYSTXBBUID01-C Evolution™-C Control

This training introduces Bryant's industry-leading Evolution™-C enhanced residential controls. These controls include software that replaces previous Evolution™ versions. Topics include familiarization, installation, start-up, configuration and troubleshooting.

Book ..... 06-B20-662 ..... 15.00
†CD-ROM ..... 06-B20-663 ..... 90.00

Rooftop Units

548/551/558/580/581J Small Rooftop Units

Topics include familiarization, controls and hardware, unit operation, troubleshooting, start-up, service and maintenance.

Book ..... 06-B24-888 ..... 12.50
†CD-ROM ..... 06-Bs24-889 ... 90.00

For product training information on older models please contact Bryant Academy
Phone: 800-644-5544 Option 2

†CD ROM contains a PowerPoint presentation which is editable and can be used for instructor-led instruction and a self-paced flash version of the PowerPoint with audio which can be used for individual instruction. Both versions work with Windows 7 products. The flash version will not work on most Apple products. To get a version which can be used on learning management systems (LMS) contact www.bryantabookstore@carrier.utc.com.

Servicing Compressors

Compressors
Introduces basic compressor types, construction, function and capacity.

Book (GTAC-105) ..... 022-009 ..... 7.75
CD-ROM PowerPoint Presentation w/Audio (GTAC1-5CD) ..... 022-044 ..... 96.25

Be Compressor Wise
Conditions for compressor change, changeout procedure and system checkout procedure. Updated refrigerant-handling techniques.

Book (GTC19-101) ..... 020-257 ..... 7.75

Preventing Compressor Failures
Presents the basics of Analyzing Compressor/Systems Problems.

Book (GTC4-101) ..... 020-490 ..... 7.75
CD-ROM PowerPoint with Audio (GTC-4PP) ..... 020-412 ..... 96.25

Why Compressors Fail II
This program includes troubleshooting tips, and an analysis section on semi-hermetic compressors.

Book (GTC2-101B) English Version ..... 020-346 ..... 9.50
Book (GTC2-101S) Spanish Version ..... 020-327 ..... 9.50
†CD-ROM (GTC-2BCD) ..... 020-348 ..... 96.25

Clean-Up After Burnout
Identify mild or severe burnouts and prevent repeat failures by using proper clean-up procedures. Updated refrigerant-handling techniques.

Book (GTC-18) ..... 020-262 ..... 7.75
†CD-ROM (GTC-18CD) ..... 020-622 ..... 96.25

Scroll Compressors
Familiarization, Operation and Service of the most popular compressors used in residential and light commercial units.

Book (GTC10-101) ..... 020-514 ..... 7.75

Hermetic Compressor Replacement
First, learn how to determine if the compressor has failed; then, take a step-by-step process to a successful compressor replacement. Start-up and checkout of the system are included.

Book (SK16-01) ..... 020-061 ..... 5.25
CD-ROM PowerPoint with Audio ..... 020-627 ..... 56.25

Diagnosing and Preventing Hermetic Compressor Failures
This interactive program develops skills that enable technicians to troubleshoot problems with welded hermetic compressors. It describes the two types of compressors covered in this program (scroll and reciprocating), including how they operate and the normal and abnormal sounds they make. Students use tests and measurements to isolate compressor faults. The basic troubleshooting process emphasizes finding the root cause of the compressor problem. Solve 10 real-life troubleshooting problems. The large number of job aids and other useful information in the comprehensive HELP section make student success easy. This program is not compatible with Windows® 7

Interactive CD-ROM (GT64-03) ..... 020-545 ..... 50.00
Student Book (GT64-01) ..... 020-551 ..... 22.50

Oil-Refrigerant Migration
Covers miscibility, rate of absorption and reducing oil dilution.

Book (GTA1-101) ..... 020-241 ..... 10.25

Safety Training

Safety Guide for Refrigeration and Air Conditioning Equipment
Use to promote safety awareness for people who own, operate or maintain refrigeration and air conditioning equipment.

Book ..... 571-100 ..... 4.00

Safety 2000
This program was produced by joint effort of Service Training and Bryant Corporation's EHS department and should be included in your safety training objectives. It is designed to promote safety awareness and provide a safer, healthier environment. It covers: personal protective equipment, material safety data sheets (MSDS), vehicle safety, emergency response, ergonomics, lifting and back safety, hazard communication, electrical safety, ladders, working at heights, fall protection, welding and brazing, compressed air and gas, refrigerants, leak testing, environmental practices, good housekeeping and confined space entry. Also safety practices needed to service: reciprocating, air handlers, cooling towers, absorption, and centrifugal equipment.

This program provides a basic understanding of good safety practices both on the job site or when using your service vehicle. You should know why safety is your concern, what hazards to watch out for and what safety precautions are required for each type of equipment.

Book (GT67-01) ..... 020-602 ..... 9.00
†CD-ROM (GT67-03) ..... 020-604 ..... 96.25

Indoor Air Quality

Indoor Air Quality Products and Fundamentals
Emphasizes the "Control, Filter, Refresh" approach to residential IAQ. It covers IAQ problems, product familiarization, equipment selection/application, operation and general maintenance. The 10-minute video compares various air filter media and equipment performance. A PowerPoint player is included on the CD training presentation along with an interactive ventilator search program.

Book ..... 020-606 ..... 9.00
CD-ROM ..... BY020-607 ..... 96.25

Controls Skills

Understanding Wiring Diagrams

This program describes how to read and interpret wiring diagrams.

Book (SK13-01)..... 020-368 ..... 10.25

Understanding Electronic Controls I

Increases student's understanding of electronic controls and their use in HVAC systems.

Book (SK8-01A) ..... 020-409 ..... 9.00

Understanding Electronic Controls II Microprocessor Controls

Provides an understanding of relationship of inputs and outputs in microprocessor controls used in HVAC systems.

Book (SK21-01)..... 020-102 ..... 9.00

Understanding Electronic Controls III Variable Speed Technology

This program provides an understanding of variable speed motors and their use in heating and cooling systems.

Book (SK27-01)..... 020-118 ..... 9.00

Remote Mounted Thermostats

Bi-Metal, Electronic (including no sub base) and Programmable. Discusses purpose and function, characteristics and operation, installation, service and troubleshooting.

CD ROM PPT with Audio (GTA-8CD)..... 020-240 ..... 96.25

Book (GTA8-101 B)..... 020-249 ..... 7.75

YAC "IGC" Integrated Gas Unit Controller

Provides information on the functions and operation of the Integrated Gas Unit Controller (IGC) board used for control of combustion and blower motor operation on gas-fired rooftop equipment. Covers familiarization, electrical operating sequence and an overview of diagnostic features.

Book (GT54-01A) ..... 020-512 ..... 7.75

Technical Development Programs

TDPs provide you with technical training materials designed to help contractors, engineers, and designers to effectively design, specify, sell, and apply HVAC equipment in commercial applications. Each of these programs consists of a CD that contains a PowerPoint™ presentation with instructor notes that you can use to present a class, typically three hours per topic. The presentation contains animations where appropriate and hyperlinks to the various segments to assist you in hosting a professional training session. High-quality graphics and photos are used in all presentations, and video clips are used in some programs to demonstrate more complex topics. Other instructor features include a convenient link to the book, charts, and tables quiz or other supplementary material.

Additionally, books are available to use in your sessions or to hand out for self-study. Each full-color book clearly covers the topic and enhances the learning experience through state-of-the-art graphics.

Introduction to HVAC

TDP-101 Industry Overview

This TDP provides a general overview of the commercial HVAC industry, providing an awareness of: the design process; participants in the design and construction process; documents involved in construction; a typical timeline of activities in the design and construction process; and how these activities are influenced by the different participants in the process. This industry is also influenced by regulatory agencies and legal concerns that are important to designers of HVAC systems.

Book ..... 06-796-025 ..... 18.00
PowerPoint CD ..... 06-797-025 ..... 100.00

TDP -102 ABCs of Comfort

This TDP module deals primarily with the design and operation of comfort air conditioning. To design these comfort air conditioning systems, it is first necessary to understand what comfort is, and how a system designer can influence the human perception of comfort. The “ABCs of Comfort” is a module of the introductory series and is intended to introduce system designers to the parameters that influence human comfort, and how the air system and mechanical refrigeration system work together to control these conditions. The material presented helps the designers determine one of the first objectives of the system design, which is to establish the comfort standards for the project.

Book ..... 796-026 ..... 18.00
PowerPoint CD ..... 797-026 ..... 100.00

TDP -103 Concepts of Air Conditioning

This module deals with the functions an air-conditioning system must perform to provide comfort air conditioning. Elementary air-conditioning definitions are explained and the fundamental classification of systems is described. The types of systems, with their components and how they control multiple building zones, are discussed. It is intended for people new to the industry or who may not be familiar with the many types of HVAC systems available. At the end of this module, a novice should have a general understanding of air-conditioning systems and how they deal with building zoning considerations.

Book ..... 796-027 ..... 18.00
PowerPoint CD ..... 797-027 ..... 100.00

Psychrometrics

TDP-201 Psychrometrics Level 1: Fundamentals

Psychrometrics is the study of the air and water vapor mixture. Proficiency in the use of the psychrometrics chart is an important tool for designers of air conditioning systems. Psychrometrics is required to properly calculate heating and cooling loads, select equipment, and design air distribution systems. While the topic is not complicated, it involves a number of formulas and their application; the psychrometric chart is useful in simplifying the calculations. This module is an introduction to air-vapor mixtures, the information obtained from the chart, and plotting the eight basic air conditioning processes.

Book ..... 796-030 ..... 18.00
PowerPoint CD ..... 797-030 ..... 100.00

Load Estimating

TDP-300 Load Estimating Level 1: Overview

An overview of commercial load estimating provides individuals with an understanding of what a load estimate is and how it is used. Heat transfer methods and theory are used to explain building load components that provide the foundation for all load estimates. Solar radiant energy is presented, along with other climatic conditions, to explain external site-related conditions that affect building heat gains and losses.

Book ..... 06-796-085 ..... 18.00
PowerPoint CD ..... 06-797-085 ..... 100.00

TDP-301 Load Estimating Level 2: Fundamentals

The fundamentals of commercial load estimating are needed to understand the various load components that go into making a practical estimate of the amount of heating and/or cooling energy needed to condition a building. Done properly, a load estimate provides the data necessary to select heating and cooling equipment that can condition the occupied spaces within a building. In the earliest stages, the load estimate will tell the designer how big the job is, either in terms of cooling capacity, expressed as tons of refrigeration, or in terms of airflow cfm. If the characteristics of the loads for the building and the HVAC system are known, then an analysis of the application can be used to come up with the correct load and equipment selections to complete the design. Along with psychrometrics, load estimating establishes the foundation upon which HVAC system design and operation occur.

Book ..... 796-034 ..... 18.00
PowerPoint CD ..... 797-034 ..... 100.00

TDP-302 Load Estimating Level 3: Block and Zone Loads

The block and zone load portion of commercial load estimating takes the designer through the process of making a practical estimate of the amount of heating and/or cooling energy needed to condition a building. Block and zone load estimates provide the data necessary to select heating and cooling equipment that can condition the spaces within a building. Using the outputs for the building block and zone load estimates, the HVAC system equipment selections can be made to complete the design. Along with psychrometrics, load estimating establishes the foundation upon which HVAC system design and operation occur.

Book ..... 06-796-035 ..... 25.00
PowerPoint CD ..... 06-797-035 ..... 100.00

Load Estimate Forms (Refer to TDP-301)

Forms to be used when calculating a heating load estimate or an air conditioning load estimate. Uses Bryant COD factor method.

Heating (E10-A) Pad of 25 ..... 797-005 ..... 7.50/pad
Air Conditioning (E20-A) Pad of 25 ..... 797-006 ..... 7.50/pad

Refrigeration Cycle

TDP-400, Level 1: Principles of Mechanical Refrigeration Introduction

Air conditioning is all about moving heat energy, by either adding or removing it from one place and moving it to another. This module deals with the way heat is moved from a place of lower temperature to a place of higher temperature in a process called mechanical refrigeration. This process is used in preserving the food we eat and for comfort air conditioning. Much of the equipment discussed in other TDP modules dealing with equipment uses the principles discussed in this module. A designer needs a thorough understanding of the concepts of mechanical refrigeration to create the best performing and cost-effective projects. The Principles of Mechanical Refrigeration is divided into two books, Level 1, Introduction, and Level 2, Analysis. Before proceeding to the equipment TDPs, the information in the Level 1 Introductory material should be understood. Level 2, Analysis, will provide a better understanding of how to evaluate unit performance and select refrigeration components.

Book ..... 796-037 ..... 18.00
PowerPoint CD ..... 797-037 ..... 100.00

Distribution Systems

TDP-504 Duct Design Level 1: Fundamentals

This module will look at the way commercial duct design creates an airflow conduit for interconnecting an air handler, VAV, and CV terminals, and room air distribution devices as a means of delivering conditioned air to the occupants of a building. A step-by-step design process will be presented covering such aspects of duct design as zoning, load determination, layout, sizing, and determining static pressure losses for system fan selection. After completing the module, participants will be able to manually size ductwork using either a friction chart or a duct calculator.

Book ..... 796-045 ..... 18.00
PowerPoint CD ..... 797-045 ..... 100.00

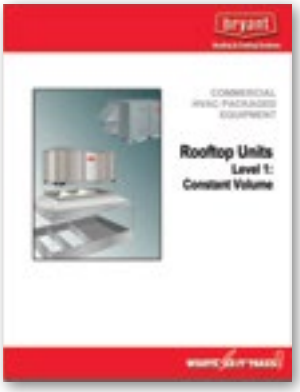
Commercial HVAC Equipment

Packaged Units

TDP-631 Rooftop Units Level 1: Constant Volume

Smaller tonnage constant volume rooftop units are the most widely used units in the commercial air conditioning industry. They are produced by the tens of thousands by the major manufacturers and are applied to a wide cross section of installations, ranging from strip malls to schools and offices. Their key features and applications are the focus of the material in this TDP module.

Book ..... 06-B796-056..... 18.00
PowerPoint CD ..... 06-B797-056..... 100.00



TDP-634 Split Systems

Spilt systems are one of the major categories of HVAC equipment, and the primary system type used in residential air conditioning. Split systems are classified as a unitary, or packaged unit, and, as such, have many of the benefits of packaged equipment while offering the flexibility associated with applied products. This module will describe what split systems are, the components of the system and accessories frequently used. It will show the designer how systems are applied, explain common installation issues, and describe how to select a system.

Book ..... 796-059..... 18.00
PowerPoint CD ..... 797-059..... 100.00

Commercial Controls

TDP-801 Controls Level 1: Fundamental

The fundamentals of HVAC controls introduces the basic concepts of control and the vocabulary necessary to understand HVAC controls that are part of the design of HVAC systems. This TDP will take the basic elements and building blocks of HVAC controls and show how comfort control systems create the desired equipment responses for maintaining room environmental condition set points.

Book ..... 796-074..... 18.00
PowerPoint CD ..... 797-074..... 100.00

Commercial HVAC Applications

TDP-902 Indoor Air Quality

This module evaluates the importance of Indoor Air Quality (IAQ) to the occupants of a building. An HVAC system may contribute to the problem of poor IAQ or provide means to maintain proper IAQ. Recent changes incorporated in *ASHRAE Standard 62.1 Ventilation for Acceptable Indoor Air Quality* will be highlighted.

Book ..... 06-796-077 ..... 25.00
PowerPoint CD ..... 06-797-077 ... 100.00

TDP-903 Life Cycle Costing for HVAC Systems

Decisions about the type of HVAC system or decisions related to making HVAC system modifications are based on financial justification. The federal government, sustainable design projects and many other entities require that these decisions be based on the total life cycle costs rather than first cost alone. The commonly used life cycle costing method helps determine the total life cycle financial impact. This training module discusses the life cycle costing method and how it should be applied to HVAC-related decisions. Six sections describe the basic concepts behind the life cycle cost method, a recommended procedure to follow, what data should be included, where to find the data and several techniques to be used in evaluating the data and making a decision. Also covered are payback and several other decision-making tools. This material can equally be applied to public or privately funded projects with certain guidelines. This module will explain these guidelines and demonstrate a life cycle costing software program.

Book ..... 06-796-078 ..... 25.00
PowerPoint CD ..... 06-797-078 ... 100.00

Air-to-Air Heat Pumps

This training module has been designed to equip the reader with the basic principles of the heat pump. The text explains the concept, operation, energy advantages, selection, control and application of air-to-air heat pumps. Although the basis of the text is the air-to-air heat pump, many of the principles covered are universally applicable to other types of heat pumps.

T200-85 Text (52 pages) ..... 791-085 ..... 5.50
T200-85PP PowerPoint Presentation ..... 793-085 ..... 55.00

Refrigerant Piping Systems

Covers the layout, sizing, materials, accessories, safety and limit controls and design practices for single and multiple refrigerant piping systems. Discusses oil circulation and refrigerant migration and their effect on design.

T200-34B Text (84 pages) ..... 791-234 ..... 5.50
T200-34B PP PowerPoint Presentation ..... 793-234 ..... 55.00

Residential Design Guides

Residential Air System Design

Discusses the various types of residential distribution systems and when they should be applied. Also describes extended plenum & reducing extended plenum (equal friction) system design procedure for sizing supply and return ducts and outlets using pre-engineered sizing charts. Demonstration and work session problems are included to illustrate procedures and insure understanding.

TDP-36 Text (94 pages) ..... 791-443 ..... 8.50

Residential Cooling/Heating Load Estimating–REZ1

This program starts with a discussion of residential system design and the importance of accurate load estimates. This is followed by a review of the load-estimating procedure using the REZ-1 Block Load and Room-by-Room forms. A demonstration cooling and heating problem is used to illustrate how these easy-to-use forms produce results comparable to longer, nationally recognized load estimate methods. Two additional work sessions are provided for practice and better understanding.

TDP-6 Text (104 pages) ..... 791-413 ..... 8.50

Residential Equipment Selection

This session covers selection of various types of residential equipment —cooling, heating, heat pump, and air treatment products. Typical rating data and selection procedures are presented and their uses are illustrated by means of a demonstration selection example. Also included in text are student work session selection and quizzes for each type of product.

TDP-16-1 Cooling Equip. Selection Text (68 pages)
..... 791-423 ..... 8.50
TDP-16-2 Heating Equip. Selection Text (52 pages)
..... 791-424 ..... 8.50
TDP-16-3 Heat Pump Selection Text (100 pages)
..... 791-425 ..... 8.50
TDP-16-4 Air Treatment Products Text (52 pages)
..... 791-426 ..... 8.50

Residential System Design Guide

The 11 chapters of this guide provide a professional, everyday approach for sizing and selecting cooling and heating equipment and for planning a quality system addition, modification, or complete installation. Focused on add-on replacement situations, it can be used as a ready-reference source for self-study or as the platform for an add-on/ replacement training seminar.

CHAPTERS INCLUDE:

1. Introduction to Residential System Design
2. Survey and Preliminary Air System Evaluation
3. Load Estimating
4. Cooling Equipment
5. Heating Equipment
6. Heat Pumps
7. The Air System
8. Supporting Systems
9. Air Treatment Equipment
10. Zoned Systems
11. Glossaries, Tables, Guidelines, Worksheets, Forms

Residential System Design Guide ..... 791-451 ..... 100.00

Engineering Guides

These guides provide the design engineer with various short cuts and time-saving procedures while still producing a dependable system design for a specific market application.

Comfort Design Made Simple

The number of variations and special features of comfort commercial systems is so vast that no two systems are exactly alike. However, there is a common method of design that works for all systems. In this guide, a straightforward, step-by-step design approach is presented and demonstrated for all-air, all-water, air-water and direct refrigerant systems. Commonality of design techniques for all systems is emphasized in the hope of bringing the process down from a complex task to a very manageable endeavor. (36 pages)

ENG-01 ..... 795-200 ..... 8.00

Indoor Air Quality (IAQ)

This guide is directed to consulting engineers, design-build contractors, servicing and maintenance contractors, who have a working understanding of comfort air conditioning design, maintenance and codes regulating today's indoor air quality issues. The purpose of this engineering guide is to highlight areas of concern which have resulted from heightening focus on the quality of indoor air. Specific problems and solutions are presented with priorities noted and practical examples given.

ENG-02 (Approx. 36 pages) ..... 795-201 ..... 8.00

Engineering Forms

REZ-1 Cooling/Heating Load Estimate (Packet)

Package containing: Data table booklet with completed examples; four block and four room-by-room load estimating forms.

Packet ..... 794-104 ..... 14.00

Extra Estimate Forms: REZ-1 Block Load

(4 pages). Folds to 8-1/2 x 11.

Form ..... 794-103 ..... 9.00/25

Rez-1 Room-By-Room Load

(4 pages). Folds to 8-1/2 x 11.

Form ..... 794-102 ..... 9.00/25

REZ-1 Residential Heating & Cooling Survey & Checklist

Pad of 25 Survey & Checklist forms is backed up with a floor plan grid.

Form ..... 794-107 ..... 7.00/pad

Residential System Design Guidelines

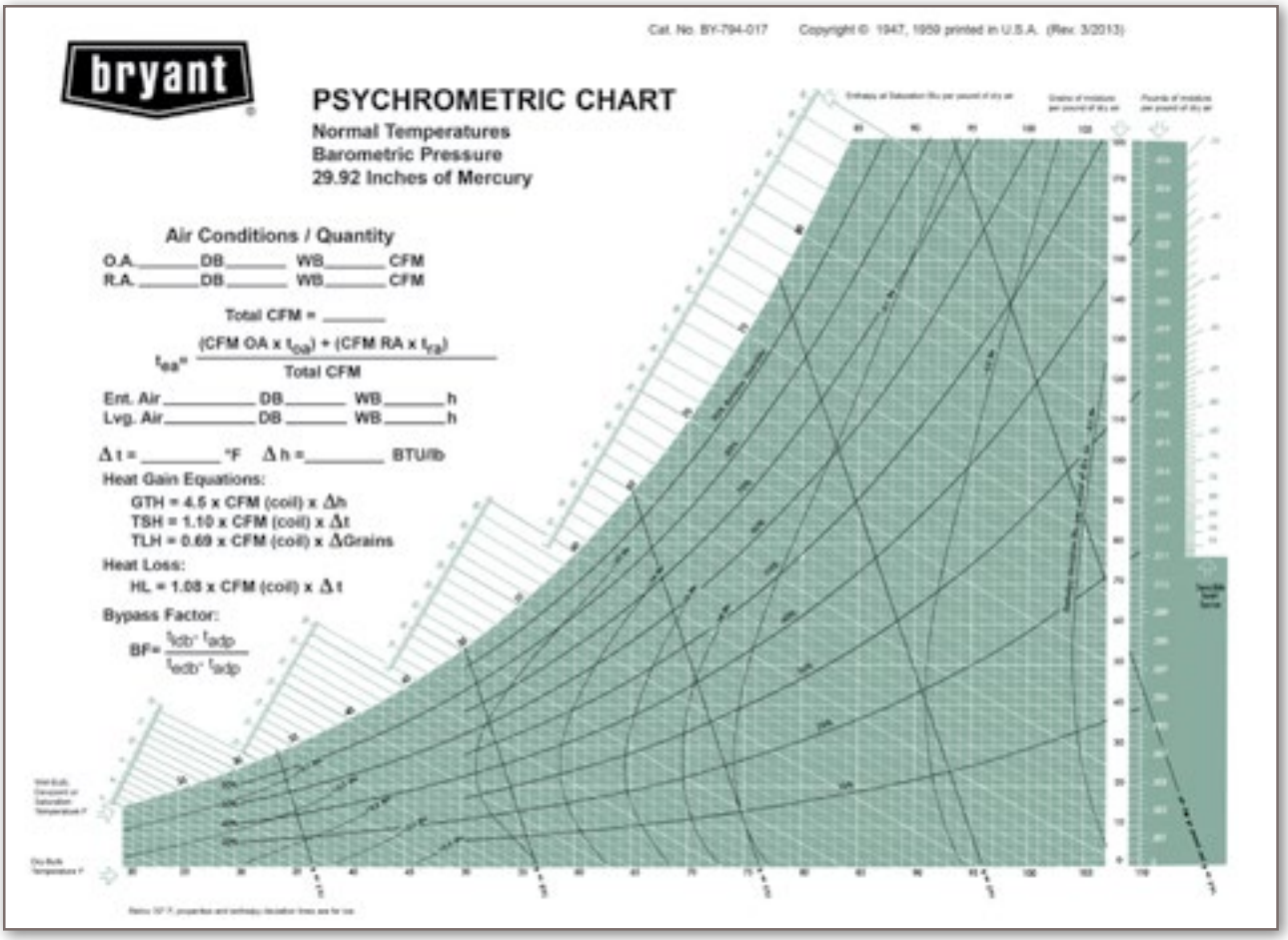
A four-page booklet containing the most used tabular data required for evaluating, applying and sizing components of residential air systems.

Package of 10 ..... 794-111 ..... 2.00 each

Residential System Design Worksheet

For recording design information – pre-engineered design and sizing data. (Reference TDP-36).

Pad of 25 ..... 794-110 ..... 5.00/pad



Engineering Charts

English Version (Fahrenheit/Foot/Pounds) Specifications

CATALOG NO.	TEMPERATURE	ELEVATION	FORMAT	SIZE	PRICE
BY-794-015	Normal 20° to 110° F (Includes definitions, symbols, how-to-use, and examples)		2 Color 6 pages	Folds to 8.5 X 11 6 pages	13.75/25
BY-794-017	Normal 20° to 110° F	Sea Level	2 Color Paper	8.5 X 11	7.50/Pad

Engineering Software

PSYCH+

Psych+ is a Windows-based computerized psychrometric chart and instructional guide that is applicable for all types of users, from the student to the professional engineer. The Psych+ electronic chart offers a convenient and accurate method for obtaining the properties of air-vapor mixtures, as well as the ability to effectively illustrate and solve a variety of air conditioning processes and/or cycles. With Psych+'s state-of-the-art technology and online help file, you can graphically portray system responses for easy interpretation of system data at computer speed. Psych+ is an instructional and engineering tool for today's design-conscious environment.

Software PSYC-01A ..... 794-120 ..... 75.00
Student Book PSYC-02..... 794-121 ..... 5.50

Professional Development

Six Steps to Great Training

Using worksheets and examples, this manual guides trainers through a six-step process that assures effective training every time. Aimed at the part-time or casual technical trainer, this manual can also be used by anyone who is called upon to provide training.

Book ..... 020-720 ..... 10.25

Award Certificates

Sale of these items is restricted to Distributors and Bryant offices only. Achievement certificates to be presented to students completing a course. Award certificates are 8.5 x 11 on parchment-type paper with gold foil border, laser-compatible. Signature line provided for instructor and distributor.

Certificate of Achievement..... BY-020-000 ..... 15.00/25

Tools, Rules, Pocket Cards, Etc.

Duct Calculator Slide Rule

Convenient simplified method of sizing duct by static regain, equal friction and volume reduction. The handy calculator is a multicolor easy-to-read device. It is intended to be used by all duct system designers. Includes an 8-page book that describes the use of the duct calculator.

Calculator ..... 599-922 ..... 18.80

Duct Sizer

A simple duct calculator, pocket size, for sizing air distribution systems by the equal friction method. Instructions and design data are imprinted on calculator.

T200-11..... 794-036 .....4.00 ea.

SHF Alignment Ruler

A unique device that simplifies plotting of the sensible heat factor line and determination of apparatus dewpoint on the psychrometric chart. Also serves as an architectural scale. Clear plastic ruler, 11-1/4 x 1-1/2, is packaged in envelope with instructions. Includes three holes for insertion in ring binder.

T200-83 ..... 798-013..... 3.75

Natural Gas Furnace Manifold Pressure Calculator

Uses slide rule calculator to determine Gas Furnace Manifold Pressure in residential furnace applications.

Calculator (GT26-01A)..... 020-444 ..... 4.75

Superheat/Subcooling Charging Calculator/Slide Rule

For use with HCFC-22 systems(GT24-01)..... 020-434 ..... 4.00
For use with R-410A systems (GT58-01)..... 020-517 ..... 4.00

Puron® Subcooling Calculator

Puron® R-410A on one side and R-22 on the other. Also includes TXV troubleshooting tips.

Calculator ..... 06-B20-640..... 4.00

Pocket Service Card (Residential)

For Field Superheat/Subcooling Charging. Also contains Temperature-Pressure Charts for HCFC and HFC refrigerants. (Package of 10.)

For HCFC-22 Systems (GT51-01) ..... 020-499 ..... 7.00/10
For HFC-134A Systems (GT52-01)..... 020-500 ..... 7.00/10

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Bryant Academy Literature Order Form

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Company Name:	Company Name:
Attn:	Attn:
Street:	Street: CANNOT SHIP TO PO BOXES
City/State/ZIP:	City/State/ZIP:
County:	County:
Phone:	Phone:
Email:	Email:
Order Date: / Date Required:	PO Number
Special Instructions:	

Item	Qty Ordered	Catalog No.	Description	Unit Price	Extended Price
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Shipping & Handling Charges	Ground Freight is prepaid and allowed. Air Shipments: Cost will be equally divided amongst all items on the order. Please call 800-644-5544 Option 2 for final costs.	Minimum Order Amount $10.00	Subtotal	
			Sales Tax	
If you are tax-exempt, please enclose a Tax-Exemption Certificate.			**Total**	


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