



PSI licensure:certification
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 Las Vegas, NV 89121
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MARYLAND
DEPARTMENT OF LABOR
STATE BOARD OF HVACR CONTRACTORS

**HEATING, VENTILATION, AIR CONDITIONING, AND
 REFRIGERATION CONTRACTORS
 QUALIFICATION INFORMATION BULLETIN
 AND EXAMINATION APPLICATIONS**

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INTRODUCTION

MARYLAND STATE BOARD OF HVACR CONTRACTORS

The Maryland State Board of Heating, Ventilation, Air Conditioning and Refrigeration Contractors Board, by authority of Business Regulation Article, 9A-304, Annotated Code of Maryland, is responsible for promulgating and enforcing regulations which define qualifications for examination, certifying and licensing all individuals involved in providing HVACR services in the state of Maryland.

Individuals who desire licensure as a Journeyman Restricted, Journeyman, Limited Contractor, Master Restricted Contractor, or Master Contractor must first pass an examination. Individuals who complete an approved Maryland Apprenticeship and Training Council program and apply for a license within two years of graduation are not required to take the Journeyman examination.

In order to apply for an examination, an applicant must meet the work experience and license requirements for the license category desired by the applicant.

The examination which you will take was developed to meet the evaluation requirements established by the Maryland General Assembly. After passing the examination, an application for original licensure will be mailed to you by the Board.

PSI LICENSURE: CERTIFICATION

The Board has contracted with PSI licensure:certification (PSI) to conduct its examination program. PSI is a nationally recognized test development and test administration services company headquartered in Burbank, California. PSI also serves the Maryland Department of Labor with their examination programs for Real Estate, Appraisers, Journey and Master Plumbers, Master Electricians, and Stationary Engineers. For information concerning the examinations, call PSI at **1-800-733-9267**.

THE HVACR EXAMINATIONS

PSI administers the HVACR licensing examinations by appointment at six test centers in Maryland. The following are licenses issued by the State Board of HVACR Contractors:

A **Master Contractor** is authorized to install, maintain, alter, remodel, or repair heating, ventilation, air conditioning, refrigeration and hydronic systems.

A **Master Restricted Contractor** is authorized to install, maintain, alter, remodel, or repair one or more of the following specialties:

- Heating - Forced Air
- Heating - Hydronic
- Heating - Combined (Forced Air and Hydronic)
- Ventilation
- Air Conditioning
- Refrigeration

A **Limited Contractor** is authorized exclusively to maintain or repair heating, ventilation, air conditioning, refrigeration, or hydronic systems. A Limited Contractor may not do installations or retrofits of HVACR systems.

A **Journeyman** is authorized to provide heating, ventilation, air conditioning, or refrigeration services while under the direction and control of a licensed contractor.

A **Journeyman Restricted** is authorized to install, maintain, alter, remodel, or repair one or more of the following specialties while under the direction or control of an appropriately licensed contractor:

- Heating - Forced Air
- Heating - Hydronic
- Ventilation
- Air Conditioning
- Refrigeration

An **Apprentice** is authorized **ONLY** to assist in providing heating, ventilation, air conditioning, or refrigeration services while under the direction and control of a licensed contractor and is in training to become a Journeyman.

All examination items have undergone a rigorous review by a content expert panel, psychometricians, and editors. Examination content is based on the outlines approved by the State Board of HVACR Contractors.

USING THIS BULLETIN

The policies and procedures for communicating with and submitting your registration to PSI during the examination process are presented in this bulletin. You will find study information about the examinations and instructions about what to do after you have passed the exam in order to become certified/licensed as an HVACR Contractor by the State of Maryland. **READ THIS ENTIRE BULLETIN, before** taking the exam. PSI welcomes your calls to our 800 service number. However, **before** calling with questions about the examination process, please review this bulletin. It may well answer your question(s) for you.

KEEP THIS BULLETIN FOR REFERENCE. It contains the examination content outlines that will assist your studying and it will be a handy reference throughout the examination and application process. **PLEASE HAVE THIS BULLETIN WITH YOU** whenever you call about your application.

INSURANCE REQUIREMENTS FOR MASTER, MASTER RESTRICTED, AND LIMITED CONTRACTORS

Certain individuals who have a Master, Master Restricted, or Limited Contractor license must have personal liability and property damage insurance coverage. The minimum personal liability coverage is \$300,000. The minimum property damage liability coverage is \$100,000. The combined total of these two insurance coverages must be \$400,000 per occurrence.

Obtain insurance if any of the following situations apply to you:

1. You are the owner-operator of an HVACR business;
2. You are a Master Restricted or Limited Contractor with

authority to approve HVACR contracts on behalf of the company; and/or

3. You plan to pull permits from local government agencies to perform HVACR services.

Candidates who pass the Master, Master Restricted, or Limited Contractor examinations will receive instructions on how to file their insurance coverage with the HVACR Board when they receive their license application.

ADVERTISING REQUIREMENTS OF MASTER, MASTER RESTRICTED, AND LIMITED CONTRACTOR LICENSEES

Master, Master Restricted, and Limited Contractor licensees who are owner-operated or are designated as the responsible HVACR contractor for their company must display their Maryland HVACR license number (category and registration number) on all vehicles used in providing HVACR services and in all advertisements used to promote their business. The License Number must be displayed in letters and numbers AT LEAST 1 ½" in height. The License Number is also required to be displayed on all contracts, printed advertisements, and mentioned in each radio, television, or other electronic advertisements.

A Category Number is the category designation of HVACR license. The number 01 designates a Master Contractor. The number 02 designates a Master Restricted Contractor. The number 06 designates a Limited Contractor.

A Registration Number is the personal number given to licensees. This number remains the same as the licensee upgrades the license.

The license must be indicated in the following manner:

MD-HVACR Category No. Registration Number

For example, a Master Contractor would advertise his/her license number as follows:



EXAMINATION APPLICATION

To be eligible to register for the examination, the applicant shall have satisfactorily completed the required work experience. PSI will review the application to determine that an applicant meets all eligibility requirements.

Questions and Inquiries

For PSI

All questions and requests for information about your application and the examinations should be directed to:

PSI licensure:certification
3210 E Tropicana
Las Vegas, NV 89121
www.psiexams.com
(800) 733-9267 • FAX (702) 932-2666
TDD (800) 735-2929

For the State Board of HVACR Contractors

Questions concerning the enforcement of the HVACR law, license qualifications and complaints should be directed to:

Maryland State Board of HVACR Contractors
500 N. Calvert St., Room 201
Baltimore, MD 21202-3651
(410) 230-6231 • FAX (410) 244-0977
TTY (410) 565-0451

REQUIREMENTS FOR THE MASTER CONTRACTOR EXAMINATION

1. Have been licensed and regularly employed as a Journeyman, Limited Contractor, or Master Restricted Contractor (any specialty) or HVACR instructor for at least three (3) years; **AND**
2. Have been regularly and principally employed in providing HVACR services under the direction and control of a Master Contractor, licensed by the HVACR Board; **AND**
3. Have been employed to provide HVACR services for at least 1,875 hours prior to applying to take the examination.

An applicant not meeting any of the above qualifications may also apply to take a Master Restricted examination. To be eligible, the applicant must document at least six (6) years of qualifying HVACR experience.

REQUIREMENTS FOR THE MASTER RESTRICTED CONTRACTOR EXAMINATION

1. Have been licensed by the State HVACR Board and regularly employed as a Journeyman, Limited Contractor, or Master Restricted Contractor (any specialty), for at least three (3) years; **AND**
2. Have been regularly and principally employed in providing services under the direction and control of a Master Contractor licensed by the HVACR Board; or a Master Restricted Contractor licensed by the HVACR Board in the specialty for which the individual is applying for examination; **AND**
3. Have been employed to provide HVACR services for at least 1,875 hours prior to applying to take the examination.

An applicant not meeting any of the above qualifications may also apply to take a Master Restricted examination. To be eligible, the applicant must document at least six (6) years of qualifying HVACR experience.

REQUIREMENTS FOR THE LIMITED CONTRACTOR EXAMINATION

1. Have been licensed as a Journeyman by the State HVACR Board for at least two (2) years;
2. Have been regularly and principally employed in providing HVACR services while licensed as a Maryland Journeyman under the direction and control of a Master Contractor, Master Restricted Contractor, or Limited Contractor licensed by the HVACR Board; and
3. Have been employed to provide HVACR services for at least 1,000 hours prior to applying to take the examination.

An applicant not meeting any of the above qualifications will not be able to take the examination. To be eligible, the applicant must document at least five (5) years of qualifying HVACR experience.

REQUIREMENTS FOR THE JOURNEYMAN EXAMINATION

1. Have a State of Maryland HVACR Apprentice license for a period of at least three (3) years; and
 - a. During that period completed at least 1,875 hours of training in providing HVACR services under the direction and control of a licensed HVACR contractor; **OR**
 - b. Successfully completed an Apprentice program related to HVACR which was approved by the Maryland Apprenticeship and Training Council.
2. Was approved by the Board for an examination for a license in the Limited Contractor, Master Restricted Contractor, or Master Contractor categories prior to August 1, 1997.
3. Have a combination of time licensed as an apprentice and the successful completion of a course of study in

HVACR work that totals (3) years. *(The course of study must be approved by PSI)*

An applicant not meeting any of the above qualifications may apply to the Board to take the Journeyman examination. To be eligible, the applicant must document at least three (3) years of qualifying experience.

REQUIREMENTS FOR THE JOURNEYMAN RESTRICTED EXAMINATION

1. Have a State of Maryland HVACR Apprentice license for a period of at least three (3) years; and
 - a. During that period completed at least 1,875 hours of training in providing HVACR services under the direction and control of a licensed HVACR contractor or Master Restricted contractor in the same category; **OR**
 - b. Successfully completed an Apprentice program related to HVACR which was approved by the Maryland Apprenticeship and Training Council.
2. Was approved by the Board for an examination for a license in the Limited Contractor, Master Restricted Contractor, or Master Contractor categories prior to August 1, 1997.
3. Have a combination of time licensed as an apprentice and the successful completion of a course of study in HVACR work that totals (3) years. *(The course of study in HVACR must be approved by PSI.)*

An applicant not meeting any of the above qualifications may apply to the Board to take the Journeyman Restricted examination. To be eligible, the applicant must document at least three (3) years of qualifying experience.

PREPARING FOR THE EXAMINATION

TIPS FOR EXAMINATION PREPARATION

The following suggestions will help you prepare for your exam. Planned preparation increases your likelihood of passing.

- Read the reference materials, making sure you understand each idea before going on to another.
- Underline or highlight key ideas for a later review.
- Your studies will be most effective if you study frequently, for about 45 to 60 minutes. Concentration tends to wander when you study for longer periods of time.

EXAMINATION CONTENT OUTLINES AND REFERENCE MATERIALS

Many of the reference materials listed are available for purchase at www.pSIONlinestore.com or by calling the PSI Online Store, toll-free, at (866) 589-3088.

Titles currently in stock are listed on the order form near the end of this candidate information bulletin.

MASTER HVACR CONTRACTOR

# of Questions	Minimum Passing Score	Time Allowed
100	70%	240 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS, AND CONTROLS a. Knowledge of AC and DC Circuits b. Knowledge of DC Circuits c. Knowledge of Electric Motors d. Knowledge of Controls	20
2.	PIPING a. Blueprints and Schematics b. Materials, Applications, and General Installation Requirements c. Joints and Connections d. Select and Install Hangers and Supports e. Valves and Fittings f. Testing and Troubleshooting g. Piping Insulation	15
3.	REFRIGERATION AND AIR CONDITIONING a. Theory b. Refrigerants c. Equipment Sizing and Design d. Equipment and Components e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance	25
4.	HEATING SYSTEMS a. Heating Theory and Types b. Combustion Air c. Equipment Sizing d. Heating Equipment e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance g. Steam, Hydronics, and Hydronic Piping h. Vents and Chimneys i. Fuel Oil Systems	20

5.	AIR DISTRIBUTION SYSTEMS a. Duct Definitions, Sizing, and Design b. Duct Assembly and Installation c. Hangers and Supports d. Duct Materials and Shapes e. Duct Insulation f. Fire and Smoke Control g. Hoods and Exhaust Systems h. Testing and Balancing i. Ventilation Requirements j. Plans and Symbols	15
6.	SAFETY a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Trenches and Excavations m. Fall Protection n. Workplace Illumination o. Contractor Responsibilities p. Tools and Equipment q. Ladders r. Other Safety Devices	5

REFERENCE MATERIALS

This examination is an OPEN BOOK examination. Candidates may bring in reference books. However, no study guides are allowed. Reference books may be indexed, and may contain highlighted or underlined text. All materials must be unmarked (not written in) and may not contain additional papers (loose or attached).

THESE REFERENCES WILL NOT BE PROVIDED AT THE TEST CENTER. THESE ARE THE ONLY REFERENCES ALLOWED IN THE TESTING ROOM.

- International Mechanical Code, 2012, International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, (800) 786-4452, www.iccsafe.org
- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Goodheart-Willcox Company, Inc., www.g-w.com
- Manual J -- Residential Load Calculation, 2006, Eighth Edition, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926
OR
Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.pSIONlinestore.com (See order form at the end of the Candidate Information Bulletin.)



- ACCA Ductulator (Duct Slide Rule), Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org

You may tab your reference materials using the following acceptable tabs: Avery Swift Tabs Self-Adhesive Permanent Plastic Tabs; Redi-Tag Self-Stick Permanent Adhesive Index Tabs.

The following tabs are unacceptable: Post-It Index Flags; Post-It Flags.

NO MATTER WHAT IS ON THE TAB PACKAGE, IF THE PSI PROCTOR IS ABLE TO REMOVE THE TABS WITHOUT RIPPING THE PAGE, YOU WILL NEED TO REMOVE THE TABS BEFORE YOU TAKE THE EXAM. DO NOT USE THE TABS THAT HAVE PAPER INSERTS. THE PAPER INSERTS WILL BE REMOVED.

MASTER RESTRICTED AND JOURNEYMAN RESTRICTED AIR CONDITIONING

Note: The following content outline and reference materials apply to both the Master Restricted and Journeyman Restricted Air Conditioning examinations.

# of Questions	Minimum Passing Score	Time Allowed
50	70%	120 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS, AND CONTROLS a. Knowledge of AC and DC Circuits b. Knowledge of DC Circuits c. Knowledge of Electric Motors d. Knowledge of Controls	15
2.	PIPING a. Blueprints and Schematics b. Materials, Applications, and General Installation Requirements c. Joints and Connections d. Select and Install Hangers and Supports e. Valves and Fittings f. Testing and Troubleshooting g. Piping Insulation	10
3.	REFRIGERATION AND AIR CONDITIONING a. Theory b. Refrigerants c. Equipment Sizing and Design d. Equipment and Components e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance g. Testing and Balancing h. Ventilation Requirements i. Plans and Symbols	20

4.	SAFETY a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Fall Protection m. Workplace Illumination n. Contractor Responsibilities o. Tools and Equipment p. Ladders q. Other Safety Devices	5
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REFERENCE MATERIALS

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THESE REFERENCES WILL NOT BE PROVIDED AT THE TEST CENTER. THESE REFERENCES WILL NOT BE PROVIDED AT THE TEST CENTER. THESE ARE THE ONLY REFERENCES ALLOWED IN THE TESTING ROOM.

- International Mechanical Code, 2012, International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, (800) 786-4452, www.iccsafe.org
- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Goodheart-Willcox Company, Inc., www.g-w.com
- Manual J -- Residential Load Calculation, 2006, Eighth Edition, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926
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Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.psiolinestore.com (See order form at the end of the Candidate Information Bulletin.)

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**MASTER RESTRICTED AND JOURNEYMAN
RESTRICTED FORCED AIR**

Note: The following content outline and reference materials apply to both the Master Restricted and Journeyman Restricted Forced Air examinations.

# of Questions	Minimum Passing Score	Time Allowed
50	70%	120 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS AND CONTROLS a. Knowledge of AC and DC Circuits b. Knowledge of DC Circuits c. Knowledge of Electric Motors d. Knowledge of Controls	15
2.	REFRIGERATION AND AIR CONDITIONING a. Theory b. Equipment Sizing and Design c. Equipment Installation d. System Operation, Troubleshooting, and Maintenance e. Testing and Balancing f. Ventilation Requirements g. Plans and Symbols	5
3.	HEATING SYSTEMS a. Heating Theory and Types b. Combustion Air c. Equipment Sizing d. Heating Equipment e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance g. Vents and Chimneys h. Fuel Oil Systems	25
4.	SAFETY a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Fall Protection m. Workplace Illumination n. Contractor Responsibilities o. Tools and Equipment p. Ladders q. Other Safety Devices	5

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- Manual J - Residential Load Calculation, 2006, Eighth Edition, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02169, (800) 344-3555, www.nfpa.org
- NFPA 54 - National Fuel Gas Code, 2002, National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
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MASTER RESTRICTED AND JOURNEYMAN RESTRICTED HYDRONIC

Note: The following content outline and reference materials apply to both the Master Restricted and Journeyman Restricted Hydronic examinations.

# of Questions	Minimum Passing Score	Time Allowed
50	70%	120 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS, AND CONTROLS a. Knowledge of AC and DC Circuits b. Knowledge of DC Circuits c. Knowledge of Electric Motors d. Knowledge of Controls	10
2.	PIPING a. Blueprints and Schematics b. Materials, Applications, and General Installation Requirements c. Joints and Connections d. Select and Install Hangers and Supports e. Valves and Fittings f. Testing and Troubleshooting g. Piping Insulation	20
3.	REFRIGERATION AND AIR CONDITIONING a. Equipment Sizing and Design b. Equipment Installation c. System Operation, Troubleshooting, and Maintenance	7
4.	HEATING SYSTEMS a. Heating Theory and Types b. Combustion Air c. Equipment Sizing d. Heating Equipment e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance g. Steam, Hydronics, and Hydronic Piping h. Vents and Chimneys i. Fuel Oil Systems	8
5.	SAFETY a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Fall Protection m. Workplace Illumination n. Contractor Responsibilities o. Tools and Equipment p. Ladders q. Employee Protection in Trenches and Excavations r. Other Safety Devices	5

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- NFPA 54 - National Fuel Gas Code, 2002, National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- Modern Hydronic Heating for Residential and Light Commercial Buildings, Second Edition, John Siegenthaler, ISBN: 0766816370, Thomson-Delmar Learning, PO Box 6904, Florence, KY 41022-6904, (800) 347-7707, www.delmarlearning.com
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926
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MASTER RESTRICTED AND JOURNEYMAN RESTRICTED REFRIGERATION

Note: The following content outline and reference materials apply to both the Master Restricted and Journeyman Restricted Refrigeration examinations.

# of Questions	Minimum Passing Score	Time Allowed
50	70%	120 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS, AND CONTROLS a. Knowledge of AC and DC Circuits b. Knowledge of DC Circuits c. Knowledge of Electric Motors d. Knowledge of Controls	15
2.	PIPING a. Blueprints and Schematics b. Materials, Applications, and General Installation Requirements c. Joints and Connections d. Select and Install Hangers and Supports e. Valves and Fittings f. Testing and Troubleshooting g. Piping Insulation	15
3.	REFRIGERATION AND AIR CONDITIONING a. Theory b. Refrigerants c. Equipment Sizing and Design d. Equipment and Components e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance	15
4.	SAFETY a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Fall Protection m. Workplace Illumination n. Contractor Responsibilities o. Tools and Equipment p. Ladders q. Other Safety Devices	5

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- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Goodheart-Willcox Company, Inc., www.g-w.com
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926 **OR** Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.psonlinestore.com (See order form at the end of the Candidate Information Bulletin.)
- Industrial Refrigeration Handbook, 1998, Wilbert F. Stoecker, ISBN: 0-07-061623-X, McGraw-Hill, PO Box 543, Blacklick, OH 43004, (800) 262-4729, books.mcgraw-hill.com

You may tab your reference material using the following acceptable tabs: Avery Swift Tabs Self-Adhesive Permanent Plastic Tabs; Redi-Tag Self-Stick Permanent Adhesive Index Tabs.

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JOURNEYMAN RESTRICTED VENTILATION

# of Questions	Minimum Passing Score	Time Allowed
40	70%	90 minutes

CONTENT OUTLINE

1.	AIR DISTRIBUTION SYSTEMS a. Duct Definitions, Sizing, and Design b. Duct Assembly and Installation c. Hangers and Supports d. Duct Materials and Shapes e. Duct Insulation f. Fire and Smoke Control g. Hoods and Exhaust Systems h. Testing and Balancing i. Ventilation Requirements j. Plans and Symbols	35
2.	SAFETY a. Scaffolds b. Ventilation Requirements c. Medical Supplies	5



d.	PPE Use
e.	Safety Training
f.	Toxic Materials
g.	Signs, Signals, and Barricades
h.	Maintain Material Safety Data Sheets (MSDS)
i.	Material Cleanup and Disposal
j.	Handling and Storing Materials
k.	Emergency Action Plans
l.	Fall Protection
m.	Workplace Illumination
n.	Contractor Responsibilities
o.	Tools and Equipment
p.	Ladders
q.	Other Safety Devices

REFERENCE MATERIALS

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THESE REFERENCES WILL NOT BE PROVIDED AT THE TEST CENTER. THESE ARE THE ONLY REFERENCES ALLOWED IN THE TESTING ROOM.

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- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Goodheart-Willcox Company, Inc., www.g-w.com
- Fibrous Glass Duct Construction Standards, Fifth Edition, 2002, North American Insulation Manufacturers Association (NAIMA), 44 Canal Center Plaza, Suite 310, Alexandria, VA 22314, (703) 684-0084, www.naima.org
- HVAC Duct Construction Standards, Metal and Flexible, 2005, 3rd edition, Sheet Metal and Air Conditioning Contractors' National Association, Inc., (703) 803-2980, www.smacna.org
- ACCA Ductulator (Duct Slide Rule), Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926
OR
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MASTER RESTRICTED VENTILATION

# of Questions	Minimum Passing Score	Time Allowed
40	70%	90 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS, AND CONTROLS a. Knowledge of AC and DC Circuits b. Knowledge of Electric Motors c. Knowledge of Controls	5
2.	AIR DISTRIBUTION SYSTEMS a. Duct Definitions, Sizing, and Design b. Duct Assembly and Installation c. Hangers and Supports d. Duct Materials and Shapes e. Duct Insulation f. Fire and Smoke Control g. Hoods and Exhaust Systems h. Testing and Balancing i. Ventilation Requirements j. Plans and Symbols	30
3.	SAFETY a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Fall Protection m. Workplace Illumination n. Contractor Responsibilities o. Tools and Equipment p. Ladders q. Other Safety Devices	5

REFERENCE MATERIALS

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Church, VA 22041, (800) 786-4452, www.iccsafe.org

- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Goodheart-Willcox Company, Inc., www.g-w.com
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- HVAC Duct Construction Standards, Metal and Flexible, 2005, 3rd edition, Sheet Metal and Air Conditioning Contractors' National Association, Inc., (703) 803-2980, www.smacna.org
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LIMITED HVACR CONTRACTOR

# of Questions	Minimum Passing Score	Time Allowed
50	70%	120 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS, AND CONTROLS	15
	<ul style="list-style-type: none"> a. Knowledge of AC and DC Circuits b. Knowledge of DC Circuits c. Knowledge of Electric Motors d. Knowledge of Controls 	

2.	PIPING	5
	<ul style="list-style-type: none"> a. Blueprints and Schematics b. Materials, Applications, and General Installation Requirements c. Joints and Connections d. Select and Install Hangers and Supports e. Valves and Fittings f. Testing and Troubleshooting g. Piping Insulation 	
3.	REFRIGERATION AND AIR CONDITIONING	10
	<ul style="list-style-type: none"> a. Theory b. Refrigerants c. Equipment Sizing and Design d. Equipment and Components e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance 	
4.	HEATING SYSTEMS	10
	<ul style="list-style-type: none"> a. Heating Theory and Types b. Combustion Air c. Equipment Sizing d. Heating Equipment e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance g. Steam, Hydronics, and Hydronic Piping h. Vents and Chimneys i. Fuel Oil Systems 	
5.	AIR DISTRIBUTION SYSTEMS	5
	<ul style="list-style-type: none"> a. Duct Definitions, Sizing, and Design b. Duct Assembly and Installation c. Hangers and Supports d. Duct Materials and Shapes e. Duct Insulation f. Fire and Smoke Control g. Hoods and Exhaust Systems h. Testing and Balancing i. Ventilation Requirements j. Plans and Symbols 	
6.	SAFETY	5
	<ul style="list-style-type: none"> a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Trenches and Excavations m. Fall Protection n. Workplace Illumination o. Contractor Responsibilities p. Tools and Equipment q. Ladders r. Other Safety Devices 	

REFERENCE MATERIALS

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- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Goodheart-Willcox Company, Inc., www.g-w.com
- Manual J -- Residential Load Calculation, 2006, Eighth Edition, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- Code of Federal Regulations - 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926
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HVACR JOURNEYMAN

# of Questions	Minimum Passing Score	Time Allowed
100	70%	240 minutes

CONTENT OUTLINE

1.	ELECTRICAL KNOWLEDGE, MOTORS, AND CONTROLS	20
	<ul style="list-style-type: none"> a. Knowledge of AC and DC Circuits b. Knowledge of DC Circuits c. Knowledge of Electric Motors d. Knowledge of Controls 	

2.	PIPING	15
	<ul style="list-style-type: none"> a. Blueprints and Schematics b. Materials, Applications, and General Installation Requirements c. Joints and Connections d. Select and Install Hangers and Supports e. Valves and Fittings f. Testing and Troubleshooting g. Piping Insulation 	
3.	REFRIGERATION AND AIR CONDITIONING	25
	<ul style="list-style-type: none"> a. Theory b. Refrigerants c. Equipment Sizing and Design d. Equipment and Components e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance 	
4.	HEATING SYSTEMS	20
	<ul style="list-style-type: none"> a. Heating Theory and Types b. Combustion Air c. Equipment Sizing d. Heating Equipment e. Equipment Installation f. System Operation, Troubleshooting, and Maintenance g. Steam, Hydronics, and Hydronic Piping h. Vents and Chimneys i. Fuel Oil Systems 	
5.	AIR DISTRIBUTION SYSTEMS	15
	<ul style="list-style-type: none"> a. Duct Definitions, Sizing, and Design b. Duct Assembly and Installation c. Hangers and Supports d. Duct Materials and Shapes e. Duct Insulation f. Fire and Smoke Control g. Hoods and Exhaust Systems h. Testing and Balancing i. Ventilation Requirements j. Plans and Symbols 	
6.	SAFETY	5
	<ul style="list-style-type: none"> a. Scaffolds b. Ventilation Requirements c. Medical Supplies d. PPE Use e. Safety Training f. Toxic Materials g. Signs, Signals, and Barricades h. Maintain Material Safety Data Sheets (MSDS) i. Material Cleanup and Disposal j. Handling and Storing Materials k. Emergency Action Plans l. Trenches and Excavations m. Fall Protection n. Workplace Illumination o. Contractor Responsibilities p. Tools and Equipment q. Ladders r. Other Safety Devices 	

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SAMPLE QUESTIONS

The following questions are offered as examples of the **types** of questions you will be asked on the examination. The examples do not represent the full range of content or difficulty levels found in the actual examinations. They are intended to familiarize you with the types of questions you can expect to find in the examinations. (*The answer key is found after question F.*)

- A. A temperature of 77 degrees F. equals what temperature in Celsius?
1. 10
 2. 25
 3. 40
 4. 60
- B. Which type of heat involves a change of state but no temperature change?
1. Latent
 2. Specific
 3. Sensible
 4. Radiant
- C. If a vent duct is to be laid in concrete, it is usually made of
1. steel.
 2. plastic.
 3. aluminum.
 4. paper fiber.
- D. The flow of refrigerant to the cooling element is controlled by
1. an expansion valve.
 2. a ball valve.
 3. a plate valve.
 4. a suction valve.
- E. A back pressure control valve is used to
1. raise temperature.
 2. lower temperature.
 3. stop contamination.
 4. keep evaporation pressure constant.
- F. You are excavating a trench that is 25 feet by 14 feet by 5 feet. How many cubic yards is this?
1. 64.8
 2. 80.0
 3. 194.4
 4. 583.3

Answer Key

A. 2; B. 1; C. 4; D.1; E. 4; F. 1

FEES

Payment of the application/examination registration fee is valid for one examination only. **Fees are not refundable and are not transferable. Examination Fees are valid for 90 days.**

Examination	Fee
Master Contractor	\$150
Master Restricted Air Conditioning	\$50
Master Restricted Forced Air	\$50
Master Restricted Hydronic	\$50
Master Restricted Refrigeration	\$50
Master Restricted Ventilation	\$50
Limited Contractor	\$150
Journeyman	\$150
Journeyman Restricted Air Conditioning	\$50
Journeyman Restricted Forced Air	\$50
Journeyman Restricted Hydronic	\$50
Journeyman Restricted Refrigeration	\$50
Journeyman Restricted Ventilation	\$50

Payment may be made by money order, company check, personal check, certified check, or cashier's check made payable to PSI. **Cash is not accepted.**

Include your name and/or Social Security Number on your money order or check to ensure that your fee is properly assigned.

SOCIAL SECURITY NUMBER CONFIDENTIALITY

PSI will use your Social Security number only as an identification number in maintaining your record and reporting your grades to the Department. The Maryland Department of Labor requires all candidates to disclose their accurate Social Security number.

SCHEDULING PROCEDURES

ON-LINE (WWW.PSIEXAMS.COM)

For the fastest and most convenient examination scheduling process, PSI recommends that you register for your examinations using the Internet. You register online by accessing PSI's registration website at www.psiexams.com. Internet registration is available 24 hours a day.

- Log onto PSI's website and create an account. Please enter your email address and first and last name. This information must match exactly with the information the Board has on file. Be sure to **check the box next to "Check here to attempt to locate existing records for you in the system"**.
- You will be asked to select the examination and enter your SS#. Your record will be found and you will now be ready to schedule for the exam. Enter your zip code and a list of the testing sites closest to you will appear. Once you select the desired test site, available dates will appear. If you have problems, contact PSI at (800) 733-9267 for help.

TELEPHONE REGISTRATION

For telephone registration, you will need a valid credit card (Visa, MasterCard, American Express or Discover).

PSI registrars are available at (800) 733-9267, Monday through Friday between 7:30 am and 10:00 pm, and Saturday-Sunday between 9:00 am and 5:30 pm, Eastern Time, to receive your payment and schedule your appointment for the examination.

FAX REGISTRATION

Complete the PSI registration form (found at the end of this bulletin), including your credit card number and expiration date. Fax the completed form to PSI at (702) 932-2666. Fax registrations are accepted 24 hours a day.

Please allow 4 business days to process your Registration. After 4 business days, you may go online or call PSI to schedule the examination.

STANDARD MAIL REGISTRATION

Complete the PSI registration form (found at the end of this bulletin), and send the form with the appropriate examination fee to PSI. You may pay fees by credit card (VISA, MasterCard, American Express or Discover), company check, money order, personal check or cashier's check, made payable to PSI. Print your name in the memo section of the company check, money order or cashier's check so we can ensure the payment is applied to your registration. **CASH IS NOT ACCEPTED.**

Please allow PSI 2 weeks to process a mailed registration. After 2 weeks, you may go online or call PSI to schedule the examination.

CANCELING OR RESCHEDULING AN APPOINTMENT

You may cancel and reschedule an examination appointment without forfeiting your fee if your cancellation notice is received 2 days before the scheduled examination date. For example, for a Monday appointment, the cancellation notice would need to be received on the previous Saturday. You may reschedule online at www.psiexams.com or call PSI at (800) 733-9267.

Note: A voice mail message is not an acceptable form of cancellation. Please use the PSI Website or call PSI and speak directly to a Customer Service Representative.

MISSED APPOINTMENT OR LATE CANCELLATION

Your registration will be invalid, you will not be able to take the test as scheduled, and you will forfeit your examination fee, if you:

- Do not cancel your appointment two days before the scheduled testing date; or
- Do not appear for your examination appointment; or
- Arrive too late to begin your test without disrupting the center's schedule; or
- Do not present proper identification when you arrive for the examination.

EXAM ACCOMMODATIONS AND OUT-OF-STATE TESTING

All PSI examination centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990, and exam accommodations will be made in meeting a candidate's needs. A candidate with a disability or a candidate who would otherwise have difficulty taking the examination must follow the instructions on the Exam Accommodations Request Form at the end of this Candidate Information Bulletin.

Applicants who live outside of Maryland and wish to take the HVACR examination at a location outside of the State should follow the instructions on the Out of State Testing Form on page 29.

EMERGENCY TEST CENTER CLOSING

In the event that inclement weather or other emergencies force the closure of a test center on an assigned test date, your examination will be rescheduled. You will be notified of the new date and time of the test. Every effort will be made to schedule a convenient time as soon as possible.

REPORTING FOR THE EXAMINATION

TESTING CENTER LOCATIONS

The following are the testing centers where you may take the examinations:

BALTIMORE FALLS ROAD CENTER:

Mount Washington Area
6115 Falls Road, Suite 100
Baltimore, MD 21209

*From the Beltway I-695, take I-83 South (Jones Falls Expressway) to the Northern Pkwy exit East. Turn left onto Northern Pkwy heading East. Turn left onto Falls Road. Go about 1 mile. You will come to a light rail overpass/bridge. The testing center building is **immediately** on your right, on the other side of the overpass/bridge. When you turn in, you will drive past the MAIN Entrance and turn right in the lot, proceeding to free parking available on the left side and rear side of the building. Please come back to the MAIN Entrance and enter the building there (not the rear entrance). PSI is in Suite 100, the first suite door to your left. This site is also conveniently located adjacent to an MTA light rail station, and accessible by MTA bus routes.*

Note: Due to building management requests, please DO NOT DISTURB other business neighbors for directions to PSI's office.

COLLEGE PARK CENTER:

The Sterling Building
4920 Niagara Road, Suite 211
College Park, MD 20740

From I-95 North/Beltway, take Exit 25/Route 1 toward College Park. Continue straight across Route 1 onto Edgewood Road. Continue to the 4-way stop. Turn left onto Rhode Island Avenue. Turn left at the next road - Niagara Road. The Sterling Building is on the right. Park in the appropriately marked spaces.

From I-95 South take Exit 25. Stay in the left turn lane and make a left at the next light which is Edgewood Road. Continue to the 4-way stop. Turn left onto Rhode Island Avenue. Turn left at the next road - Niagara Road. The Sterling Building is on the right. Park in the appropriately marked spaces.

CROFTON CENTER

Morauer III Building
2137 Espey Court, Suite 3
Crofton, MD 21114

From Defense Highway (450), take the Priest Bridge Rd exit going South. Turn right on Espey Court.

From the Washington Beltway, take 50 East to 3 North. Turn right on Defense Highway (450), take the Priest Bridge Rd exit going South. Turn right on Espey Court.

HAGERSTOWN CENTER:

140 West Franklin Street, Suite A
Hagerstown, MD 21740

From I 70: Take exit 32B Hagerstown. This is US Route 40 west. Follow Route 40 for 4.1 miles to 140 W. Franklin Street. It is slightly past the intersection of Jonathan and Franklin. You must turn into the church parking lot on the right before you reach 140 W. Franklin Street.

From I 81: Take exit 6 US Route 40 east. Follow on Route 40 for 1.6 miles and turn left on to Jonathan Street. After one block turn left on to Franklin Street. Stay right and enter the church parking lot. This will come up quickly on the right.

There are many parking spots reserved for PSI testing on the lot. You will then walk past the front of the church and into 140 W. Franklin Street, Suite A is on the ground floor. No steps required to enter.

There is one handicapped spot reserved for PSI on the lot at 140 W. Franklin Street near the entrance door. All other parking has to be on the church lot.

LANHAM CENTER:

5900 Princess Garden Pkwy
Suite 501
Lanham, MD 20706

Take the 20B-A/Annapolis Road Exit towards Lanham. Take Princess Garden Parkway exit. Turn left, following Princess Garden Parkway exit, veer into far right lane. Turn right on Princess Garden Parkway - turn left at first driveway.

SALISBURY CENTER:

1323 Mt. Hermon Road
Beaglin Park Plaza, Suite 2A
Salisbury, MD 21804

From Rt. 50 E, take 50 Business thru Salisbury. Turn right onto Beaglin Park Dr. Turn left onto Mt Hermon Road. Take the first left into Beaglin Park Plaza Complex. Look for Building 2.

From Rt. 13S, take 13 S Norfolk exit. Take 50 Business exit and turn left onto Beaglin Park Dr. Turn left onto Mt Hermon Rd. Take the first left into Beaglin Park Plaza Complex. Look for Building 2.

From Rt. 13N, take Rt. 50/Salisbury Business exit. Turn left onto Beaglin Park Dr. Turn left onto Mt Hermon Rd. Take the first left into Beaglin Park Plaza Complex. Look for Building 2.

REPORTING TO THE TEST CENTER

On the day of the exam, you should arrive at least 30 minutes before your scheduled appointment. This extra time is for sign-in and identification and to familiarize you with the test process.



REQUIRED IDENTIFICATION

You **must** provide two (2) forms of identification. One must be a VALID form of government-issued identification (Driver's License, State ID, Passport, Military ID) which bears your signature and has your photograph or a complete physical description. The second ID must have your signature and preprinted legal name. All identification provided must match the name on the registration form and your education certification.

If you cannot provide the required identification, you must call (800) 733-9267 at least 3 weeks prior to your scheduled appointment to arrange a way to meet this security requirement. *Failure to provide all the required identification at the time of the examination without notifying PSI is considered a missed appointment and you will not be able to take the examination at that time.*

SECURITY PROCEDURES

The following security procedures will apply during the examination:

- Candidates are allowed to bring a hardcover bound word-to-word translation dictionary. Word-to-word translation dictionaries are not to contain pictures or definitions.
- Only non-programmable calculators that are silent, battery-operated, do not have paper tape printing capabilities, and do not have a keyboard containing the alphabet will be permitted.
- Candidates may take only approved items into the examination room.
- All personal belongings of candidates should be placed in the secure storage provided at each site prior to entering the examination room. Personal belongings **include, but are not limited to**, the following items:
 - **Electronic devices of any type, including cellular / mobile phones, recording devices, electronic watches, cameras, pagers, laptop computers, tablet computers (e.g., iPads), music players (e.g., iPods), smart watches, radios, or electronic games.**
 - **Bulky or loose clothing or coats** that could be used to conceal recording devices or notes. For security purposes outerwear such as, but not limited to: open sweaters, cardigans, shawls, scarves, hoodies, vests, jackets and coats are not permitted in the testing room. **In the event you are asked to remove the outerwear, appropriate attire, such as a shirt or blouse should be worn underneath.**
 - **Hats or headgear not worn for religious reasons** or as religious apparel, including hats, baseball caps, or visors.
 - **Other personal items**, including purses, notebooks, reference or reading material, briefcases, backpacks, wallets, pens, pencils, other writing devices, food, drinks, and good luck items
- Although secure storage for personal items is provided at the examination site for your convenience, PSI is not responsible for any damage, loss, or theft of any personal belongings or prohibited items brought to, stored at, or left behind at the examination site. PSI assumes no duty of care with respect to such items, and makes no representation that the

secure storage provided will be effective in protecting such items. If you leave any items at the examination site after your examination and do not claim them within 30 days, they will be disposed of or donated, at PSI's sole discretion.

- Person(s) accompanying an examination candidate may not wait in the examination center, inside the building or on the building's property. This applies to guests of any nature, including drivers, children, friends, family, colleagues or instructors.
- No smoking, eating, or drinking is allowed in the examination center.
- During the check in process, all candidates will be asked if they possess any prohibited items. Candidates may also be asked to empty their pockets and turn them out for the proctor to ensure they are empty. The proctor may also ask candidates to lift up the ends of their sleeves and the bottoms of their pant legs to ensure that notes or recording devices are not being hidden there.
- Proctors will also carefully inspect eyeglass frames, tie tacks, or any other apparel that could be used to harbor a recording device. Proctors will ask to inspect any such items in candidates' pockets.
- If prohibited items are found during check-in, candidates shall put them in the provided secure storage or return these items to their vehicle. PSI will not be responsible for the security of any personal belongings or prohibited items.
- Any candidate possessing prohibited items in the examination room shall immediately have his or her test results invalidated, and PSI shall notify the examination sponsor of the occurrence.
- Any candidate seen giving or receiving assistance on an examination, found with unauthorized materials, or who violates any security regulations will be asked to surrender all examination materials and to leave the examination center. All such instances will be reported to the examination sponsor.
- Copying or communicating examination content is violation of a candidate's contract with PSI, and federal and state law. Either may result in the disqualification of examination results and may lead to legal action.
- Once candidates have been seated and the examination begins, they may leave the examination room only to use the restroom, and only after obtaining permission from the proctor. Candidate will not receive extra time to complete the examination.

TAKING THE EXAMINATION

The examination will be administered via computer. You will be using a mouse and computer keyboard.

IDENTIFICATION SCREEN

You will be directed to a semiprivate testing station to take the examination. When you are seated at the testing station, you will be prompted to confirm your name, identification number, and the examination for which you are registered.

TUTORIAL

Before you start your examination, an introductory tutorial is provided on the computer screen. The time you spend on this tutorial, up to 15 minutes, DOES NOT count as part of your examination time. Sample questions are included following the tutorial so that you may practice answering questions, and reviewing your answers.

TEST QUESTIONS SCREEN

The “Function Bar” at the top of the sample question provides mouse-click access to the features available while taking the examination.



Question: 3 of 40 Answered: 2 Unanswered: 1 Marked: 0 View: All Time Left(Min): 359

3. What do the stars on the United States of America's flag represent?

(Choose from the following options)

- 1. Presidents
- 2. Colonies
- 3. States
- 4. Wars

<< Back Next >>

One question appears on the screen at a time. During the examination, minutes remaining will be displayed at the top of the screen and updated as you record your answers.

IMPORTANT: After you have entered your responses, you will later be able to return to any question(s) and change your response, provided the examination time has not run out or you have not ended your examination.

SCORE REPORTING

Your passing or failing indication will appear immediately on the computer screen at the end of your test. Exam results are confidential and will be revealed only to you and the Board/Department. A passing grade of 70 points is required to qualify for licensure.

Passing candidates will receive notification from DLLR. Failing candidates will receive score reports and another registration form to retake the exam. Examination fees are valid for one examination only. **YOU MAY NOT TAKE THE EXAMINATION MORE OFTEN THAN EVERY 30 DAYS.**

EXAMINATION REVIEW

Failing candidates will have the option of reviewing their examinations in a secure environment. Requests for an Examination Review must be made within 15-days after their examination. Candidates will be provided with a copy of the incorrectly answered questions in the examination, along with the candidate's answer. The candidate will have the opportunity to write down any matter that he/she wishes to bring to the Board's attention. The candidate's notes, together with a copy of the item, will be submitted directly to the Board. The Board will review the candidate's comments and make a determination as to the validity of the candidate's comments.

Standard examination security practices will be followed throughout this procedure. You may not take any notes out of the review sessions. Call the (800) 733-9267 for details.

DUPLICATE SCORE REPORTS

You may request a duplicate score report after your examination by emailing scorereport@psionline.com or by calling 800-733-9267.

LICENSE APPLICATION

LICENSE APPLICATION INSTRUCTIONS

Applicants who pass the exam will NOT receive any additional notices from PSI. They will receive further licensing instructions directly from DLLR.

Questions regarding the license application should be directed to the State Board of HVACR Contractors at (410) 230-6159. *Do not contact PSI.*

State Board of HVACR Contractors
500 N. Calvert St., Room 201
Baltimore, Maryland 21202

NOTE: It is advisable to keep these instructions for future reference, along with copies of your application and other related documents.

Please follow the instructions in this section carefully.

FILLING OUT THE EXAMINATION REGISTRATION FORM

Be sure that the registration form is complete, accurate, and signed, and that you include all attachments and the correct fee. Detailed instructions on completing the form are provided below. Improperly completed forms will be returned to you unprocessed.

1. **Legal Name** -- Print your name in the boxes provided, using one box per letter. If your name is longer than the boxes allow, print as many letters as possible.
2. **Social Security Number** -- Print only one number per box.
3. **Mailing Address** -- Print only one letter or number per box. Do not include punctuation marks; leave blank spaces to show spaces. All information will be sent to the address you provide here. Do not use a PO Box unless it is accompanied by a rural delivery route number. Indicate home or work address with an "X."
4. **Telephone Numbers** -- Please provide your Home (Evening) phone number and your Office (Daytime) phone number (including area codes).
5. **Birth Date** -- Provide your date of birth (e.g., "06-01-50" for June 1, 1950).
6. **Email Address** -- Please provide your email address on the line provided.
7. **State Registration No.** -- If you are already licensed by the state of MD to provide HVACR services, please indicate the number that was assigned to you. If this is the first HVACR license you are applying for in the State of MD, please leave this section blank. The state Registration number is assigned by DLLR.
8. **License Type** -- Place an "X" in the box indicating the exam for which you are registering.

9. **Test Fee** -- Indicate the appropriate registration fee for the exam that applies to you. Do not forget to fill out the credit card information below if you are paying with Visa, MasterCard, American Express or Discover.
10. **Exam Accommodations/Out of State Testing Request Form** - Applicants with disabilities or those who would otherwise have difficulty taking the exam must specify the alternative arrangement requested and complete the form on page 21.

Applicants who live outside of Maryland and want to take the exam in another state should check "yes" and complete the form on page 21.
11. **Required Information** -- All applicants must answer all questions by indicating either "yes" or "no" with an "X."
12. **Affidavit and Signature** -- All applicants are required to read the affidavit, then sign and date the application. The application is not complete and will not be accepted if it is submitted without your signature.



CHECK ONE CATEGORY OF HVACR LICENSE FOR WHICH YOU ARE APPLYING

MASTER MASTER RESTRICTED LIMITED

1) I am applying for a Master or Master Restricted examination based upon at least 3 years experience* as a Maryland licensed Journeyman. (Give Maryland HVACR Registration Number and attach current license)

Reg# _____

2) I am applying to sit for the Limited Contractor license examination based upon 2 years experience* as a Maryland licensed HVACR Journeyman. I understand that this license does not allow me to install or replace HVACR equipment or systems. (*This is not a **Master** level license*)

3) I am applying to sit for the HVACR license based upon prior qualifying work experience, completion of approved formal study, or formal HVACR teaching experience.

*Six years of approved experience is needed for a Master or Master Restricted, and five years of approved work experience is needed for the Limited license.

IF YOU WISH TO ONLY APPLY FOR A MASTER "RESTRICTED" LICENSE, INDICATE ALL THE CATEGORISE FOR WHICH YOU ARE APPLYING FOR.

HYDRONIC HEAT (HOT WATER AND STEAM BOILER)
Includes boilers (all fuels), (steam or hot water) flues, piping distribution systems, sizing, installation and service, add on coils and Geothermal

FORCED AIR HEAT (OIL AND GAS FURNACE)
Includes forced air heating systems, (all fuels), devices, flues, sizing, installation and services.

VENTILATION (DUCT WORK)
Includes duct systems, equipment flues, sizing, layout, outside air requirements, installation and service

AIR CONDITIONING (INCLUDES HEAT PUMPS)
Includes comfort cooling systems, heat pumps, required piping (drains and refrigeration), sizing, installation and service

REFRIGERATION
Includes (residential/commercial/industrial) walk-in-boxes, freezers, and cascade systems for low temperature applications, installation and service.

11. Required Information:

ALL candidates must complete the following questions by answering “YES” or “NO” to each:

- | | Yes | No |
|--|--------------------------|--------------------------|
| ▪ I am 18 years of age or older. | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Have you ever been convicted of a felony or misdemeanor in any State or Federal Court? | <input type="checkbox"/> | <input type="checkbox"/> |
| ▪ Have you ever had this type of license, certificate, registration or permit denied, suspended, or revoked by Maryland or any other jurisdiction? | <input type="checkbox"/> | <input type="checkbox"/> |

If you answer “yes” to the conduct question above you must submit a true test copy of your court document along with your application. Failure to submit the requested information will result in a delay in processing your application.

12. Affidavit/Signature

If the address of this registration is not within the State of Maryland, I do hereby irrevocably consent that suits and actions may be commenced against me in the proper courts of the State of Maryland as required by the Maryland Annotated Code. I hereby certify that the information provided on both sides of this registration is true and correct and the Maryland Department of Labor may rely on its truthfulness in considering this registration, and that this registration is signed and sworn to under penalty of perjury.

Sign Here _____
Signature of Applicant Date

Complete and submit this form to:
PSI: ATTN: Examination Registration MD HVAC
3210 E Tropicana ** Las Vegas, NV 89121 ** www.psiexams.com
Fax (702) 932-2666 * (800) 733-9267 * TTY (800) 735-2929

MASTER/MASTER RESTRICTED/LIMITED CONTRACTOR WORK CERTIFICATION FORM

THIS FORM IS TO BE FILLED OUT BY A LICENSED MASTER

*For Out-of-State applicants with no existing Maryland HVACR license and MD applicants who do not hold a Journeyman/Journeyman Restricted license, who are seeking a MASTER/MASTER RESTRICTED LICENSE, applications can be signed off by immediate supervisor, manager or owner if the Master licensee is not available.

****THIS PAGE MUST BE PRINTED ON ORIGINAL COMPANY LETTERHEAD****

Name of Employee _____

Work Experience - The applicant shall have been engaged or employed in providing HVACR services for at least three years in the categories listed below while under the direction and supervision of a licensed Master/Master Restricted licensee or a similarly qualified employee of a governmental unit.

(No MD License)

Master/Master Restricted Licensee (MD) or Supervisor/Manager/Owner (Out-of-State):

Name of Master/Supervisor/Manager/Owner Master License # (Attach Copy of License)/Title

License Jurisdiction License Issue Date License Expiration Date

Name of Employer/Company Employer/Company Telephone Number

Employer/Company Address City State Zip

Signature of Master/Supervisor/Manager/Owner Date

Applicant Information:

Title (Journeyman/Journeyman Restricted)

Detailed Description of Work Duties - Include all installation/service/repair in each category - Limited contractor service/repair only - **Attach additional sheets to include all information required.**

Forced Air Heat _____

Ventilation _____

Air-Conditioning _____

Refrigeration _____

Hydronic Heat _____

Date From (Mo/Dy/Yr) Date To (Mo/Dy/Yr)



INSTRUCTION IN HVACR

PSI may allow an applicant up to three (3) years of credit toward the required experience if they determine that the applicant has served as an instructor for a formal course of study or professional training in HVACR installation, service or repair, or taught an HVACR apprenticeship program.

Instruction	Apprenticeship Program	Office Use
Name of School	Name of Apprenticeship Program	
Address	Address	
City, State, Zip	City, State, Zip	
Phone	Phone	
Date From (Mo/Dy/Yr)	Date From (Mo/Dy/Yr)	
Date To (Mo/Dy/Yr)	Date To (Mo/Dy/Yr)	Years/Months

You must have this application signed by responsible authority to attest that you taught at the school or Apprenticeship Program named in this application.

 Signature and Title of School or Apprenticeship Principal, Director or Supervisor

 Date



CHECK ONE CATEGORY OF HVACR LICENSE FOR WHICH YOU ARE APPLYING

JOURNEYMAN

JOURNEYMAN RESTRICTED

PART 1 CHECK THE APPROPRIATE OPTION BELOW

OPTION 1 = I have held a Maryland HVACR apprentice license for at least 3 years and lawfully provided HVACR Services during that time under the direction, control, and supervision of a licensed Maryland HVACR MASTER or HVACR MASTER RESTRICTED licensee; OR I can provide a combination of licensed Maryland apprentice work experience and evidence of the successful completion of a HVACR course of study approved by the Heating, Ventilation, Air Conditioning and Refrigeration Board ("Board"). The work experience and course of study must total at least 3 years. The applicant must also successfully pass the Journey/Journey Restricted examination.

All applicants applying under OPTION 1 are required to have a work experience certification form for each job worked **COMPLETED** and **SIGNED BY THE HVACR MASTER/MASTER RESTRICTED LICENSEE** under whom the applicant worked.

OPTION 2 = I am an Out-of-State applicant with no existing Maryland HVACR license, or a Maryland resident with no existing Maryland apprentice license applying for the Journey/Journey Restricted license examination based upon at least 3 years of prior qualifying work experience (as determined by the Board) and/or formal teaching experience. The applicant must also pass the Journey/Journey Restricted license examination.

All applicants applying under OPTION 2 with no Maryland Master available must have his/her immediate supervisor, manager or owner sign and verify this application. You must also provide a **detailed outline of your principal work duties** from the immediate supervisor, manager or owner **ON COMPANY LETTERHEAD**, and must include the qualifications of the person signing off on your application as to his/her qualification and credentials to recommend you. **If the description of your work duties is not detailed and/or not printed on company letterhead, your application will be returned.**

PLEASE PROCEED TO NEXT PAGE

Yes No

11. Required Information:

ALL candidates must complete the following questions by answering "YES" or "NO" to each:

- I am 18 years of age or older.
- Have you ever been convicted of a felony or misdemeanor in any State or Federal Court?
- Have you ever had this type of license, certificate, registration or permit denied, suspended, or revoked by Maryland or any other jurisdiction?

If you answer "yes" to the conduct question above you must submit a true test copy of your court document along with your application. Failure to submit the requested information will result in a delay in processing your application.

12. Affidavit/Signature

If the address of this registration is not within the State of Maryland, I do hereby irrevocably consent that suits and actions may be commenced against me in the proper courts of the State of Maryland as required by the Maryland Annotated Code. I hereby certify that the information provided on both sides of this registration is true and correct and the Maryland Department of Labor may rely on its truthfulness in considering this registration, and that this registration is signed and sworn to under penalty of perjury.

Sign Here _____
Signature of Applicant Date

Complete and submit this form to:
PSI: ATTN: Examination Registration MD HVAC
3210 E Tropicana ** Las Vegas, NV 89121 ** www.psiexams.com
Fax (702) 932-2666 * (800) 733-9267 * TTY (800) 735-2929

**JOURNEYMAN/JOURNEYMAN RESTRICTED CONTRACTOR
WORK CERTIFICATION FORM**

***THIS FORM IS TO BE FILLED OUT BY A LICENSED MASTER**

*Out-of-State applicants with no existing MD HVACR license and MD applicants with no apprentice license who are seeking a JOURNEYMAN or JOURNEYMAN RESTRICTED LICENSE, complete the form on the next page.

For In-State Maryland Licensed HVACR Apprentices seeking a "FULL" JOURNEYMAN LICENSE - must be completed and signed only by the company's MASTER licensee. For In-State Maryland licensed HVACR Apprentices seeking a "RESTRICTED" JOURNEYMAN LICENSE - must be completed and signed only by the company's MASTER RESTRICTED licensee who is only allowed to sign off on the categories he/she is registered in. You must show at least three years' experience.

Name of Company: _____

Address: _____
Street

City _____ State _____ Zip code _____

Employee's Name: _____

Employee's Job Classification: _____ From: _____ To: _____
Month/Year Month/Year

Indicate the approximate time totaling 100%, which the employee was involved with each of the following areas of HVACR during his/her employment with you. Each line below must show a percentage.

NOTE: To qualify for a "FULL" Journeyman level license, the applicant must have assisted in both the INSTALLATION and SERVICE of HVACR equipment and systems - under the direction and control of a HVACR Master level licensee.

AREA OF WORK EXPERIENCE	<u>Repair and Maintenance</u>	<u>Installation of Equipment</u>
HYDRONIC HEAT (HOT WATER AND STEAM BOILER)	_____ %	_____ %
FORCED AIR HEAT	_____ %	_____ %
VENTILATION (DUCT WORK)	_____ %	_____ %
AIR CONDITIONING (INCLUDES HEAT PUMPS)	_____ %	_____ %
REFRIGERATION	_____ %	_____ %

Detailed Work Experience _____

Print Name: _____ Registration #: _____
Must be the name of a Maryland full or restricted MASTER

Work Number: _____ Cell Number: _____

I do solemnly affirm under penalties of perjury that the contents of this document are true as stated

Master/Restricted Master's Signature: _____ Date: _____



**JOURNEYMAN/JOURNEYMAN RESTRICTED CONTRACTOR
WORK CERTIFICATION FORM**

***THIS FORM IS TO BE FILLED OUT BY A LICENSED MASTER**

*Out-of-State applicants with no existing MD HVACR license and MD applicants with no Apprentice license - applications can be signed by immediate supervisor, manager or owner if the Master licensee is not available.

****THIS PAGE MUST BE PRINTED ON ORIGINAL COMPANY LETTERHEAD****

Name of Employee _____

Work Experience - The applicant shall have been engaged or employed in providing HVACR services for at least three years in the categories listed below while under the direction and supervision of a licensed Master/Master Restricted licensee or a similarly qualified employee of a governmental unit.

Name of Master/Supervisor/Manager/Owner Master License # (*Attach Copy of License*)/Title

License Jurisdiction License Issue Date License Expiration Date

Name of Employer/Company Employer/Company Telephone Number

Employer/Company Address City State Zip

Signature of Master/Supervisor/Manager/Owner Date

Applicant Information:

Title (Journeyman/Journeyman Restricted)

Detailed Description of Work Duties - Include all installation/service/repair in each category. **Attach additional sheets to include all information required.**

Forced Air Heat _____

Ventilation _____

Air-Conditioning _____

Refrigeration _____

Hydronic Heat _____

Date From (Mo/Dy/Yr) Date To (Mo/Dy/Yr)



TRAINING, INSTRUCTION, OR APPRENTICESHIP IN HVACR

PSI may allow an applicant up to three (3) years of credit toward the required experience if they determine that the applicant has completed training or served as an instructor for a formal course of study or professional training in HVACR installation, service or repair, or completed an HVACR apprenticeship program.

Education/Instruction	Apprenticeship Program	Office Use
Name of School	Name of Apprenticeship Program	
Address	Address	
City, State, Zip	City, State, Zip	
Phone	Phone	
Date From (Mo/Dy/Yr)	Date From (Mo/Dy/Yr)	
Date To (Mo/Dy/Yr)	Date To (Mo/Dy/Yr)	Years/Months

Please attach transcripts or a certificate of completion from any HVACR program(s) or Apprenticeship program attended.

You must have this application signed by responsible authority to attest that you taught at the school or Apprenticeship Program named in this application.

Signature and Title of School or Apprenticeship Principal, Director or Supervisor

Date



EXAM ACCOMMODATIONS OR OUT-OF-STATE TESTING REQUEST INSTRUCTIONS

All examination centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990.

Applicants with disabilities or those who would otherwise have difficulty taking the examination should request for alternative arrangements by [Clicking Here](#).

Requirements for exam accommodation requests:

You are required to submit documentation from the medical authority or learning institution that rendered a diagnosis. Verification must be uploaded to PSI on the letterhead stationery of the authority or specialist and include the following:

- Description of the disability and limitations related to testing
- Recommended accommodation/modification
- Name, title and telephone number of the medical authority or specialist
- Original signature of the medical authority or specialist

Date: _____ Social Security or ID#: _____

Legal Name: _____
Last Name First Name

Address: _____
Street City, State, Zip Code

Telephone: (_____) _____ - _____ (_____) _____ - _____
Home Work

Email Address: _____

Check any exam accommodations you require (requests must concur with documentation submitted):

- | | |
|---|---|
| <input type="checkbox"/> Reader (as accommodation for visual impairment or learning disability) | <input type="checkbox"/> Extended time (Additional time requested: _____) |
| <input type="checkbox"/> Large-print written examination | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> *Out-of-State Testing Request (this request does not require additional documentation) _____ | |

Site requested: _____

*You may email your out-of-state request to OutOfStateRequest@psionline.com

- Complete and fax this form, along with supporting documentation, to (702) 932-2666 or email it to examaccommodations@psionline.com.
- After 4 days, PSI Exam Accommodations will email you confirmation of approval with instructions for the next step.

DO NOT SCHEDULE YOUR EXAMINATION UNTIL THIS DOCUMENTATION HAS BEEN RECEIVED AND PROCESSED BY PSI EXAM ACCOMMODATIONS.



To place an order for one or more of the following items listed, you may:

➤ Order online at www.pSIONlinestore.com

➤ Call the PSI Online store toll-free at (866) 589-3088

Note: prices are available online at www.pSIONlinestore.com

<input type="checkbox"/>	<u>International Mechanical Code</u>
<input type="checkbox"/>	<u>29 CFR Part 1926 Selections</u>
<input type="checkbox"/>	<u>Modern Refrigeration and Air Conditioning</u>

Please note: Inventory and pricing subject to change without notice.

PSI licensure:certification
3210 E Tropicana
Las Vegas, NV 89121