

# Heating, A/C, Refrigeration and Ventilation

Catalog Number: C31313  
Exam Number: 915007  
Effective Date: 03/05/09

## License Information

**Scope** – Tests a candidate’s knowledge of the installation, maintenance, repair, fabrication, alteration, and extension of air conditioning, refrigeration, heating, ventilation systems, duct systems, warm air systems, low pressure boiler and unfired pressure vessel systems, solar heating and cooling systems, and related appurtenances unlimited in horsepower or tonnage.

## Examination Outline

### Open Book

**100 Questions – Four-hour time limit**

**70% Correct required to pass**

Exam Topic	%
General Knowledge	20
Low Pressure Boilers and Solar	10
Warm Air Heating	10
Refrigeration	18
Ventilation	10
Fuel Gas Systems	10
Controls	8
Piping	6
Load Calculations	5
Insulation	3

## References

The following references **are allowed** in the testing center.

1. *Uniform Mechanical Code*, 2006, International Association of Plumbing and Mechanical Officials (IAPMO), 5001 E. Philadelphia Street, Ontario, CA 91761-2816, www.iapmo.org.
2. *NFPA 31 – Standard for the Installation of Oil Burning Equipment*, 2006 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101, www.nfpa.org.
3. *NFPA 58 – Standard for the Storage and Handling of Liquefied Petroleum Gases (LP Gas Code)*, 2008 Edition, National Fire Protection Association, 1 Batterymarch Park, PO Box 9101, Quincy, MA, 02269-9101, www.nfpa.org.
4. *Manual J – Residential Load Calculation*, Eighth Edition, 2002, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, www.acca.org

5. *Manual N – Commercial Load Calculation*, Fifth Edition, 2008, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, www.acca.org.
6. *ACCA Duct Slide Rule*, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, www.acca.org.
7. *Pipefitters Handbook*, Third Edition, 1967, Industrial Press, Inc., 989 Avenue of the Americas, New York, NY 10018, www.industrialpress.com.

The following references were used to create exam questions but **are not allowed** in the testing center.

1. *Low Pressure Boilers*, Third Edition, 2008, American Technical Publishers (ATP), 1155 West 175<sup>th</sup> Street, Homewood, IL 60430-4600, www.go2atp.com.
2. *Modern Refrigeration and Air Conditioning*, 18th Edition, 2004, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243, www.g-w.com.

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