

## License Information

**Scope-** Tests a candidate's knowledge of the design, installation, maintenance, repair, alteration, and extension of air conditioning, refrigeration, warm air heating, low and high pressure boilers, ventilation systems, duct systems, unfired pressure vessels, fuel transmission lines, and related appurtenances.

## Examination Outline

### Open Book

**120 Questions – 4-1/2-hour time limit**

**70% Correct Required to Pass**

SUBJECT AREA	PERCENTAGE
HARV GENERAL	21
HEATING- LOW AND HIGH PRESSURE BOILERS, WARM AIR	21
HARV CONTROLS	12
VENTILATION	13
FUEL GAS SYSTEMS	13
LOAD CALCULATIONS	4
PIPING	8
INSULATION	4
SAFETY	4

## References

*The following special devices ARE allowed in the testing center in addition to the standard allowable test center devices:*

*ACCA Ductulator*, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206.

*TRANE Ductulator*, TRANE Company, c/o Inland Marketing Services, 3030 Airport Road, La Crosse, WI 54603.

*The following references ARE allowed in the testing center:*

*Uniform Mechanical Code*, 2000 Edition, IAPMO – International Association of Plumbing and Mechanical Officials, 5001 E. Philadelphia St., Ontario, CA 91761-2816.

*NFPA 85 – Boiler and Combustion Systems Hazards Code*, 2001 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

*NFPA 90A – Installation of Air Conditioning and Ventilating Systems*, 2002 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

*NFPA 58 - Standard for the Storage and Handling of Liquefied Petroleum Gases*, 2001 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

*NFPA 31 - Standard for the Installation of Oil Burning Equipment*, 2001 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

*Manual N – Commercial Load Calculation*, Fourth Edition, 1988, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206.

*OSHA Excerpts for Contractors*, Fourth Edition, 2003, Prometric, 1260 Energy Lane, St. Paul, MN 55108.

*Carrier System Design Manual-Part III: Piping Design*, Carrier, 1960 Edition, Carrier Air Conditioning Company, Literature Distribution, Bldg. TR-2, Syracuse, NY 13221-4804.

*The following references have been used to create exam questions but are NOT allowed in the testing center:*

*High Pressure Boilers*, Third Edition, 2003, American Technical Publishers (ATP), 1155 West 175<sup>th</sup> Street, Homewood, IL 60430-4600.

*Low Pressure Boilers*, 2001 Edition, American Technical Publishers (ATP), 1155 West 175<sup>th</sup> Street, Homewood, IL 60430-4600.

*Pipefitters Handbook*, Third Edition, 1967, Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016.

*Modern Refrigeration and Air Conditioning*, Eighteenth Edition, 2004, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243.

*For information on how to obtain examination references, please call toll-free 877.624.2562.*

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