SECTION M2001
BOILERS


((M2001.1 Installation. In addition to the requirements of this code, the installation of boilers shall conform to the manufacturer's instructions. The manufacturer's rating data, the name plate and operating instructions of a permanent type shall be attached to the boiler. Boilers shall have their controls set, adjusted and tested by the installer. A complete control diagram together with complete boiler operating instructions shall be furnished by the installer. Solid and liquid fuel burning boilers shall be provided with combustion air as required by Chapter 17.)

M2001.1.1 Standards. Packaged oil-fired boilers shall be listed and labeled in accordance with UL 726. Packaged electric boilers shall be listed and labeled in accordance with UL 834. Solid fuel-fired boilers shall be listed and labeled in accordance with UL 2523. Boilers shall be designed, constructed and certified in accordance with the ASME Boiler and Pressure Vessel Code, Section I or IV. Controls and safety devices for boilers with fuel input ratings of 12,500,000 Btu/hr (3,663,388 watts) or less shall meet the requirements of ASME CSD-1. Gas-fired boilers shall conform to the requirements listed in Chapter 24.

M2001.2 Clearances. Boilers shall be installed in accordance with their listing and label.

M2001.3 Valves. Every boiler or modular boiler shall have a shutoff valve in the supply and return piping. For multiple boiler or multiple modular boiler installations, each boiler or modular boiler shall have individual shutoff valves in the supply and return piping.

Exception: Shutoff valves are not required in a system having a single low-pressure steam boiler.

M2001.4 Flood-resistant installation. In flood hazard areas established in Table R301.2(4), boilers, water heaters and their control systems shall be located or installed in accordance with Section R322.1.6.

SECTION M2002
OPERATING AND SAFETY CONTROLS

M2002.1 Safety controls. Electrical and mechanical operating and safety controls for boilers shall be listed and labeled.

M2002.2 Hot water boiler gauges. Every hot water boiler shall have a pressure gauge and a temperature gauge, or combination pressure and temperature gauge. The gauges shall indicate the temperature and pressure within the normal range of the system's operation.

M2002.3 Steam boiler gauges. Every steam boiler shall have a water gauge glass and a pressure gauge. The pressure gauge shall indicate the pressure within the normal range of the system's operation. The gauge glass shall be installed so that the midpoint is at the normal water level.

M2002.4 Pressure-relief valve. Boilers shall be equipped with pressure-relief valves with minimum rated capacities for the equipment served. Pressure-relief valves shall be set at the maximum rating of the boiler. Discharge shall be piped to drains by gravity to within 18 inches (457 mm) of the floor or to an open receptor.

M2002.5 Boiler low-water cutoff. Steam and hot water boilers shall be protected with a low-water cutoff control.

Exception: A low-water cutoff is not required for coil-type and water-tube type boilers that require forced circulation of water through the boiler and that are protected with a flow-sensing control.

M2002.6 Operation. Low-water cutoff controls and flow sensing controls required by Section M2002.5 shall automatically stop the combustion operation of the appliance when the water level drops below the lowest safe water level established by the manufacturer or when the water circulation flow is less than that required for safe operation of the appliance, respectively.

SECTION M2003
EXPANSION TANKS

M2003.1 General. Hot water boilers shall be provided with expansion tanks. Nonpressurized expansion tanks shall be securely fastened to the structure or boiler and supported to carry twice the weight of the tank filled with water. Provisions shall be made for draining nonpressurized tanks without emptying the system.

M2003.1.1 Pressurized expansion tanks. Pressurized expansion tanks shall be consistent with the volume and capacity of the system. Tanks shall be capable of withstanding a hydrostatic test pressure of two and one half times the allowable working pressure of the system.

M2003.2 Minimum capacity. The minimum capacity of expansion tanks shall be determined from Table M2003.2.))
SECTION M2004
WATER HEATERS USED FOR SPACE HEATING

M2004.1 General. Water heaters used to supply both potable hot water and hot water for space heating shall be installed in accordance with this chapter, Chapter 24, and the manufacturer’s instructions.

SECTION M2005
WATER HEATERS

M2005.3 Electric water heaters. Electric water heaters shall also be installed in accordance with the applicable provisions of Chapters 34 through 43.

M2005.4 Supplemental water-heating devices. Potable water heating devices that use refrigerant-to-water heat exchangers shall be approved and installed in accordance with the manufacturer’s instructions.

SECTION M2006
POOL HEATERS

M2006.1 General. Pool and spa heaters shall be installed in accordance with the manufacturer’s installation instructions. Oil-fired pool heaters shall comply with UL 726. Electric pool and spa heaters shall comply with UL 1261.

M2006.2 Clearances. The clearances shall not interfere with combustion air, draft hood or flue terminal relief, or accessibility for servicing.

M2006.3 Temperature-limiting devices. Pool heaters shall have temperature-relief valves.

M2006.4 Bypass valves. Where an integral bypass system is not provided as a part of the pool heater, a bypass line and valve shall be installed between the inlet and outlet piping for use in adjusting the flow of water through the heater.