

815 KAR 20:055. Water heating devices.

RELATES TO: KRS Chapter 236, 318.200

STATUTORY AUTHORITY: KRS 198B.040(10), 318.130, 318.200

NECESSITY, FUNCTION, AND CONFORMITY: KRS 318.130 requires the department to promulgate administrative regulations establishing the Kentucky State Plumbing Code to regulate plumbing. KRS 318.200 requires that all retailers, wholesalers, and installers selling or offering for sale water heating devices, within thirty (30) days of the date of sale, forward a list of names and addresses of purchasers along with the serial number of the device purchased to the department or to the appropriate agency of county or city government having jurisdiction. This administrative regulation establishes the requirements for water heating devices.

Section 1. Installation requirements.

(1) General requirements.

(a) A water heater shall be:

1. Properly connected to the hot and cold water supply; and
2. Accessible for inspection, repair, and replacement.

(b) Temperature and pressure relief valves shall be installed in accordance with manufacturer's requirements.

(2) A water heater designed for use as an appliance for supplying potable hot water for domestic or commercial purposes may be used for space heating if the water temperature does not exceed 140 degrees Fahrenheit.

(3) Crawl Space.

(a) A water heater installed in a crawl space shall:

1. Have adequate access with a travel path no less than five (5) feet of vertical distance; and
2. Be installed on at least a two (2) inch thick corrosion resistant material adequate to support the water heater.

(b) The replacement of a water heater that was originally installed in a crawl space prior to September 1, 2006 shall be exempt from vertical distance requirement in paragraph (a)1. of this subsection.

(4) Attic, Drop Ceiling, or Wood Flooring.

(a) After April 1, 2021, a water heater installed in an attic, above a drop ceiling, or on wood flooring in the occupied space of a building shall be:

1. Installed with a corrosion resistant water tight pan below the water heater; and
2. Equipped with at least a three-fourths (3/4) inch drain to be piped similarly to a temperature and pressure relief valve discharge line.

(b) A temperature and pressure relief valve may discharge into the drain pan if the drain pan pipe:

1. Is equipped with a one (1) inch drain;
2. Is of a material suitable for hot water; and
3. Discharges through an air gap to a sump basin, service sink, open receptacle, or other point of discharge approved by the division, in accordance with 815 KAR 20:130.

(5) Fuel-fired water heaters.

(a) A fuel-fired water heater shall be connected to a flue or a chimney. The flue or chimney shall:

1. Be of a size at least as large as required by the water heater manufacturer's instructions;
2. Extend two (2) feet above the roof of the building;
3. Be properly flashed; and

4. Not terminate within six (6) feet of a door or window.
- (b) A fuel-fired water heater vent shall not be connected to a flue serving a coal-burning apparatus.
- (c) A fuel-fired water heater shall not be placed in any bathroom, toilet room, or a room used for sleeping unless it has a direct-vent or through the wall vent system.
- (d) A fuel-fired water heater shall not be placed in a closed room or closet unless the space:
 1. Has a louver door; or
 2. Is ventilated to provide combustion air and circulation that satisfies the requirements of the National Fuel Gas Code in Chapter 35 of the Kentucky Building Code incorporated by reference in 815 KAR 7:120.
- (6) Gas-fired direct vent water heaters.
 - (a) A residential gas-fired direct vent and through the wall type water heater shall be:
 1. Vented in accordance with the manufacturer's instructions; and
 2. Installed to satisfy the requirements of the National Fuel Gas Code in Chapter 35 of the Kentucky Building Code incorporated by reference in 815 KAR 7:120.
 - (b)
 1. The vent terminal of a direct vent water heater with an input of 50,000 BTUs per hour or less shall be located at least nine (9) inches from any opening through which flue gases may enter the building.
 2. The vent terminal of a direct vent water heater with an input over 50,000 BTUs per hour shall be located at least twelve (12) inches from any opening through which flue gases may enter the building.
 - (c) The bottom of the vent terminal and the air intake of a direct vent water heater shall be located at least twelve (12) inches above grade.
- (7) Instantaneous water heaters. An instantaneous water heater not listed in 815 KAR 20:020 shall:
 - (a)
 1. Be certified to ANSI Z21.10.1 for units including but not exceeding 75,000 BTUs; or
 2. Be certified to ANSI Z21.10.3 for units exceeding 75,000 BTUs;
 - (b) Have a minimum of three-fourths (3/4) inch inlet and outlet;
 - (c) Be installed with a properly sized pressure relief valve not exceeding 150 pounds per square inch; and
 - (d) Be installed to enable flushing without altering the installation, if required by the manufacturer to be periodically flushed.

Section 2. Water heaters subject to additional requirements. Water heaters shall be considered pressure vessels and shall comply with KRS Chapter 236 and 815 KAR Chapter 15 if the water heater exceeds:

- (1) Heat input of two hundred thousand (200,000) BTU/Hr.;
- (2) Water temperature of two hundred ten (210) degrees Fahrenheit; or
- (3) Water storage capacity of one hundred twenty (120) gallons.

Section 3. Domestic Solar Water Heaters. A domestic solar water heater may have a "single wall heat exchanger" if:

- (1) The solar panel and the water heater exchanger use a nontoxic liquid such as propylene glycol or an equivalent;
- (2) The heat exchanger is pretested by the manufacturer to 450 pounds per square inch;
- (3) The water heater has a warning label advising that a nontoxic heat exchanger fluid shall be used at all times; and
- (4) A pressure relief valve is installed at the highest point in the solar panel.

Section 4. Domestic Water Heater Preheating Device.

- (1) A domestic water heater preheating device may be used and connected with the high pressure line from the compressor of a domestic home air conditioner or heat pump heater.
- (2) Double wall heat-exchangers with two (2) separate thicknesses separating the heat exchange fluid (other than potable water) from the potable water supply shall be provided.
- (3)
 - (a) The water inlet to the heat exchange vessel shall be provided with a check valve. A pressure relief valve, approved in accordance with this administrative regulation, set to relieve at five (5) pounds per square inch above the maximum water pressure at the point of installation shall be provided adjacent to and at the outlet side of the check valve, if the heat exchange units contain more than twenty (20) pounds of refrigerants.
 - (b) This device shall be equipped with a temperature limit control that would actuate a pump that would circulate hot water from the water heater through the pre-heater device.
- (4)
 - (a) Condensate drain water shall be piped in accordance to the Kentucky Plumbing Code and shall not:
 1. Drain into a crawl space, sewer, or vent stack; or
 2. Be installed in an area subject to freezing.
 - (b) A condensate pump shall be used if a drain is:
 1. Not available; or
 2. Located above the vent.

Section 5. Temperature and Pressure Relief Devices.

- (1) Only temperature and pressure relief devices approved by the department as established in 815 KAR 20:020 and 815 KAR 20:120 shall be installed.
- (2) A temperature and pressure relief device shall be installed:
 - (a) On each water heater on the hot water side not more than three (3) inches from the top of the water heater; and
 - (b) According to the manufacturer's recommendation, if a marked opening is provided on the water heater by the manufacturer for a temperature and pressure relief device.
- (3)
 - (a) In a location with a floor drain, the discharge from the relief device shall be piped to within two (2) inches of the floor.
 - (b) In a location without a floor drain, the discharge from the relief device shall be piped to the outside of the building with an ell turned down and piped to within four (4) inches of the surface of the ground.
- (4) The relief device may discharge through an air gap to a sump basin, service sink, open receptacle, or other point of discharge in which equivalent safety shall be provided as approved by the department.

Section 6. Water Distribution for Fan Coil Units.

- (1) If a domestic water heater is used for heating purposes through a fan coil medium, the water temperature shall not exceed 140 degrees Fahrenheit.
- (2) The fan coil unit shall use not less than three-fourths (3/4) inch piping and its run shall not exceed 140 feet between the water heater and the heating unit.
- (3) The applicable requirements established in 815 KAR 20:070 shall be met.

Section 7. Reporting Requirements.

- (1) Except as established in subsection (2) of this section, a wholesaler, retailer, or installer who sells a water heating device shall submit to the division Form PLB-94,

Water Heater Report Form, within thirty (30) days of the date of sale.

(2) An installing contractor who obtains an installation permit for the installation of a water heating device shall be exempt from the reporting requirements of subsection (1) of this section. The installation permit shall serve as the reporting requirement for the installer as required by KRS 318.200.

Section 8. Incorporation by Reference.

(1) Form PLB-94, "Water Heater Report Form", October 2019, is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Department of Housing, Buildings and Construction, Division of Plumbing, 500 Mero St., Frankfort, Kentucky 40601-5412, Monday through Friday, 8 a.m. to 4:30 p.m. and is available online at <http://dhbc.ky.gov/Pages/default.aspx>.

(11 Ky.R. 911; 1258; eff. 2-12-1985; 17 Ky.R. 2881; eff. 5-3-1991; 24 Ky.R. 2463; eff. 7-13-1998; 32 Ky.R. 2364; 33 Ky.R. 406; eff. 9-1-2006; 36 Ky.R. 1533; 2068-M; eff. 4-2-2010; 46 Ky.R. 1654, 2286, 2422; eff. 6-2-2020.)