



# HVAC

## Installation Requirements

[\\*All installations must comply with 2017 NEC, 2018 IMC, 2018 IRC/IBC requirements.](#)

### A. General – Applies to all HVAC Equipment.

#### 1. Manufacturer's Installation Instructions.

- a. All Mechanical equipment installations must comply with the manufacturer's installation instructions. (2018 IRC M1307.1, 2018 IMC 304.1 General)
- b. A permanent factory-applied nameplate(s) must be affixed to appliances with legible lettering, the manufacturer's name or trademark, the model number, serial number and the seal or mark of the approved agency. (2018 IRC M1303.1, 2018 IMC 301.9)
- c. Because of different installation standards required by each manufacturer, at time of inspection, the manufacturer installation instructions, and owner's manual, must be present at the unit(s) for inspector review.

- #### 2. Mechanical Equipment Located in an Attic.
- Attics containing Mechanical equipment must be provided with an opening and unobstructed passageway large enough to allow removal of the largest appliance. The passageway must be at least 30 inches in height and 22 inches in width and not more than 20 feet in length when measured along the centerline of the passageway from the opening to the appliance. The passageway must have continuous solid flooring at least 24 inches in width. A level service space at least 30 inches in length and 30 inches in width must be present at the front or service side of the appliance. The clear access opening dimensions must be at least 20 inches by 30 inches where such dimensions are large enough to allow removal of the largest appliance. (2018 IRC M1305.1.2, 2018 IMC 306.3 Appliances in attics)

- #### 3. Exterior Equipment.
- Equipment and appliances supported from the ground shall be level and firmly supported on a concrete slab or other approved material extending not less than 3 inches above the adjoining ground. Such support must be in accordance with the manufacturer's installation instructions. (2018 IRC M1305.1.3.1, 2018 IMC 304.10 Clearance from grade)

#### 4. Condensate.

- a. Condensate from cooling coils and evaporators must be conveyed from the drain pan outlet to an approved place of disposal. Such piping must maintain a minimum horizontal slope in the direction of discharge of at least 1/8 unit vertical in 12 units horizontal (1-percent slope). Condensate must not discharge into a street, alley, or other area where it would cause a nuisance. (2018 IRC M1411.3, 2018 IMC 307.2.1 Condensate disposal)
- b. Auxiliary and secondary drain systems are required. In addition to the requirements of Section 307.2.1, where damage to any building components could occur as a result of overflow from the equipment primary condensate removal system, auxiliary protection methods must be



- provided for each cooling coil or fuel-fired appliance that produces condensate. (2018 IRC M1411.3.1, 2018 IMC 307.2.3 Auxiliary and secondary drain systems)
- c. A separate overflow drain line must be connected to the drain pan provided with the equipment. Such overflow drain must discharge to a conspicuous point of disposal to alert occupants in the event of a stoppage of the primary drain. The overflow drain line must connect to the drain pan at a higher level than the primary drain connection. (2018 IRC M1411.3.1, 2018 IMC 307.2.3 Auxiliary and secondary drain systems)
5. **Locking access port caps.** Refrigerant circuit access ports located outdoors must be fitted with locking-type tamper-resistant caps or must be otherwise secured to prevent unauthorized access. (2018 IRC M1411.8, 2018 IMC 1101.10 Locking access port caps)
  6. **Insulation of refrigerant piping.** Piping and fittings for refrigerant vapor (suction) lines must be insulated. Refrigerating piping and fittings that could reach a surface temperature below the dew point of the surrounding air, and are located in spaces or areas where condensation will cause a safety hazard to the building occupants, structure, electrical equipment or any other equipment or appliances, must be protected in an approved manner to prevent such damage. Insulation for refrigerant piping must be protected from damage. (2018 IRC M1411.6, 2018 IMC 1107.4 Insulation of refrigerant piping)
  7. **Electrical supply.**
    - a. A flexible cord may be used to supply power to the equipment. All flexible cords must be continuous lengths without splices or taps. (2018 IRC E3909.3/E3909.1)
    - b. If an electrical receptacle is added, an Electrical contractor will need to be added to the permit. All electrical work, including the addition of the receptacle, must be done by a licensed Electrician, and meet the requirements of the 2017 NEC.
    - c. An electrical disconnect is required at the appliance. (2017 NEC 422.31)
    - d. Circuit breakers/overcurrent protection properly sized per manufacturer's specifications. (2017 NEC 240.21)
  8. **Gas Shut-off valve.** A hand-operable appliance gas valve is required and sediment trap must be installed prior to appliance gas connection. (2018 IRC G2422.1.2.4, 2018 IFGC 409.5 Shutoff valve & 2018 IRC G2419.4, 2018 IFGC 408.4 Sediment trap)
  9. **Gas system modification.** If modifications are made to the gas system, a gas test is required to be performed on the entire gas system and a gas sizing diagram will need to be uploaded to the CSS portal OR sent via email to [inspections@addisontx.gov](mailto:inspections@addisontx.gov) prior to the day of the inspection. (2018 IRC G2417.1.3, 2018 IFGC 406.1.3 New branches)

10. **Combustion exhaust vents.** Appliance venting must comply with manufacturer instructions and utilize manufacturer specified draft diverter, exhaust termination cap, and flashing for type of vent pipe used. Only B-vent can be used in the attic space with a minimum of one inch (1") clearance from combustibles. (2018 IRC G2427, 2018 IFGC 503 Venting of appliances)

11. **Combustion Air.**

- a. New Construction/Remodels- Combustion air must be provided in the upper twelve inches (12") and the lower twelve inches (12") of the closet. Each vent must be a minimum of one cubic inch for every 4,000 BTU of the appliance rating. (2018 IRC G2407.6.1, 2018 IFGC 304.6.1)
- b. Existing Homes- If the existing furnace did not have combustion air, and the structure was built prior to 1980, you will not be required to provide additional combustion air. If the structure was built after 1980 or there has been a history of furnace combustion issues, combustion air must be provided in the upper twelve inches (12") and the lower twelve inches (12") of the closet. Each vent must be a minimum of one hundred square inches (100 sq. in.)

12. **Air intake openings.** Intake openings must be a minimum of 10ft horizontally from any Plumbing or exhaust vent termination. (2018 IRC M1602.1, 2018 IMC 401.4 Intake opening location)

## B. Commercial Buildings/RTU's

**Alterations to the Roof or Structure.** Any alterations to the roof of the building will require a permit for the roof repair(s) and alterations to the structure of the building due to the installation of a larger or smaller RTU will require a Commercial Remodel permit. This permit may require engineered drawings and special inspections for steel and/or welding based on the scope of the work. (2018 IBC 105.1, 2018 IMC 106.1 Permits)