

FIGURE 304.11(3)
APPLIANCES LOCATED IN CONFINED SPACES;
ALL AIR FROM OUTDOORS
 (see Section 304.11.1)

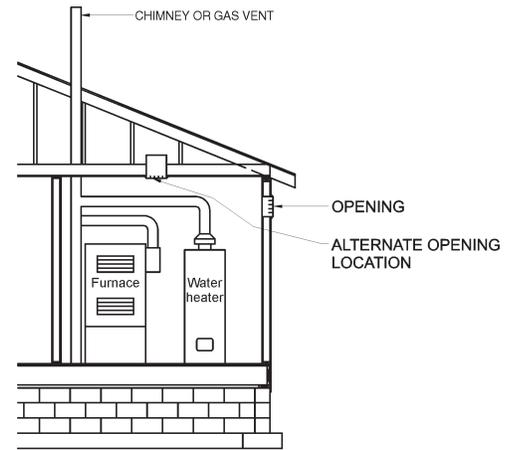


FIGURE 304.11(4)
APPLIANCES LOCATED IN CONFINED SPACES; SINGLE
COMBUSTION AIR OPENING, ALL AIR FROM THE OUTDOORS
 (see Section 304.11.2)

304.12.3 Ratio of horizontal openings. Where openings connected to the outdoors through horizontal ducts are provided in accordance with Section 304.11.1, the ratio of horizontal openings shall be the sum of the net free areas of both such openings, divided by the sum of the required areas for both such openings as determined in accordance with Section 304.11.1.

304.12.4 Ratio of vertical openings. Where openings connected to the outdoors through vertical ducts are provided in accordance with Section 304.11.1, the ratio of vertical openings shall be the sum of the net free areas of both such openings, divided by the sum of the required areas for both such openings as determined in accordance with Section 304.11.1.

304.12.5 Ratio of interior spaces. The ratio of interior spaces shall be the available volume of all communicating spaces, divided by the required volume as determined in accordance with Section 304.10.

304.12.6 Prorating of inside and outdoor air. In spaces that utilize a combination of inside and outdoor air, the sum of the ratios of all direct openings, horizontal openings, vertical openings and interior spaces shall equal or exceed 1.

304.13 Specially engineered installations. As an alternative to the provisions of Sections 304.10, 304.11 and 304.12, the necessary supply of air for combustion, ventilation and dilution of flue gases shall be provided by an approved engineered system.

304.14 Louvers and grilles. In calculating free area in Sections 304.10, 304.11 and 304.12, the required size of openings for combustion, ventilation and dilution air shall be based on the net free area of each opening. If the free area through a design of louver or grille is known, it shall be used in calculating the size opening required to provide the free area specified. If

the design and free area are not known, it shall be assumed that wood louvers will have 20-25 percent free area and metal louvers and grilles will have 60-75 percent free area. Louvers and grilles shall be fixed in the open position.

Exception: Louvers interlocked with the equipment so that they are proven to be in the full open position prior to main burner ignition and during main burner operation. Means shall be provided to prevent the main burner from igniting if the louvers fail to open during burner start-up and to shut down the main burner if the louvers close during operation.

304.15 Combustion air ducts. Combustion air ducts shall comply with all of the following:

1. Ducts shall be of galvanized steel complying with Chapter 6 of the *International Mechanical Code* or of equivalent corrosion-resistant material approved for this application.
Exception: Within dwellings units, unobstructed stud and joist spaces shall not be prohibited from conveying combustion air, provided that not more than one required fireblock is removed.
2. Ducts shall terminate in an unobstructed space allowing free movement of combustion air to the appliances.
3. Ducts shall serve a single enclosure.
4. Ducts shall not serve both upper and lower combustion air openings where both such openings are used. The separation between ducts serving upper and lower combustion air openings shall be maintained to the source of combustion air.
5. Ducts shall not be screened where terminating in an attic space.
6. Horizontal upper combustion air ducts shall not slope downward toward the source of combustion air.

Comm 65.0304 (4) Additional combustion air intake requirement. Mounting height of the combustion air intakes shall have the lowest side of outside air intake openings located at least 12 inches (305 mm) vertically from the adjoining grade level.

SECTION 305 (IFGC) INSTALLATION

305.1 General. Equipment and appliances shall be installed as required by the terms of their approval. Equipment and appliances shall be installed in accordance with the conditions of listing, the manufacturer's installation instructions, and this code. Manufacturers' installation instructions shall be available on the job site at the time of inspection.

Unlisted appliances approved in accordance with Section 301.3 shall be limited to uses recommended by the manufacturer and shall be installed in accordance with the manufacturer's installation instructions, the provisions of this code, and the requirements determined by the code official.

Comm 65.0305

- (1) **Additional requirements.** The requirements in IMC Sections 304.2, 304.8, 304.9, 304.10, and 305 as adopted in s. Comm 61.05 shall apply to gas appliance installations.
- (2) **Final test required.** The requirements as specified in s. Comm 64.0313 shall apply.

305.2 Elevation of ignition source. Equipment and appliances having an ignition source shall be elevated such that the source of ignition is not less than 18 inches (457 mm) above the floor in hazardous locations and public garages, private garages, repair garages, automotive service stations and parking garages. Such equipment and appliances shall not be installed in Group H occupancies or control areas where open use, handling or dispensing of combustible, flammable or explosive materials occurs. For the purpose of this section, rooms or spaces that are not part of the living space of a dwelling unit and that communicate directly with a private garage through openings shall be considered to be part of the private garage.

305.3 Public garages. Appliances located in public garages, service stations, repair garages or other areas frequented by motor vehicles shall be installed a minimum of 8 feet (2438 mm) above the floor. Where motor vehicles exceed 6 feet (1829 mm) in height and are capable of passing under an appliance, appliances shall be installed a minimum of 2 feet (610 mm) higher above the floor than the height of the tallest vehicle.

Exception: The requirements of this section shall not apply where the appliances are protected from motor vehicle impact and installed in accordance with Section 305.2 and NFPA 88B.

305.4 Private garages. Appliances located in private garages shall be installed with a minimum clearance of 6 feet (1829 mm) above the floor.

Exception: The requirements of this section shall not apply where the appliances are protected from motor vehicle impact and installed in accordance with Section 305.2.

SECTION 306 (IFGC) ACCESS AND SERVICE SPACE

306.1 Clearances for maintenance and replacement. Clearances around appliances to elements of permanent construction, including other installed appliances, shall be sufficient to allow inspection, service, repair or replacement without removing such elements of permanent construction or disabling the function of a required fire-resistance-rated assembly.

306.2 Appliances in rooms. Rooms containing appliances requiring access shall be provided with a door and an unobstructed passageway measuring not less than 35 inches (889 mm) wide and 80 inches (2032 mm) high.

Exception: Within a dwelling unit, appliances installed in a compartment, alcove, basement or similar space shall be provided with access by an opening or door and an unobstructed passageway measuring not less than 24 inches (610 mm) wide and large enough to allow removal of the largest appliance in the space, provided that a level service space of not less than 30 inches (762 mm) deep and the height of the appliance, but not less than 30 inches (762 mm), is present at the front or service side of the appliance with the door open.

306.3 Appliances in attics. Attics containing appliances requiring access shall be provided with an opening and unobstructed passageway large enough to allow removal of the largest component of the appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide and not more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the equipment. The passageway shall have continuous solid flooring not less than 24 inches (610 mm) wide. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the equipment. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches (508 mm by 762 mm), where such dimensions are large enough to allow removal of the largest component of the appliance.

Exception: The passageway and level service space are not required where the appliance is capable of being serviced and removed through the required opening.

306.3.1 Electrical requirements. A lighting fixture controlled by a switch located at the required passageway opening and a receptacle outlet shall be provided at or near the equipment location in accordance with the ICC *Electrical Code*.

306.4 Appliances under floors. Underfloor spaces containing appliances requiring access shall be provided with an access opening and unobstructed passageway large enough to remove the largest component of the appliance. The passageway shall not be less than 30 inches (762 mm) high and 22 inches (559 mm) wide, nor more than 20 feet (6096 mm) in length when measured along the centerline of the passageway from the opening to the equipment. A level service space not less than 30 inches (762 mm) deep and 30 inches (762 mm) deep and 30 inches (762 mm) wide shall be present at the front or service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches (305 mm) below the adjoining grade, the walls of the passageway shall be lined with concrete or masonry extending 4 inches (102 mm) above the adjoining grade and having sufficient lateral-bearing capacity to resist