

Combustion Air Calculation

Per 2018 IRC Section G2407.5

Appliance #1	Furnace	100000 BTU/h
Appliance #2		BTU/h
Appliance #3	Water Heater	50000 BTU/h
Total BTU/hr		150000 BTU/h

Area of Combined Space (floor where appliances are located)	728 ft ²
Ceiling Height in Usable Space	8.75 ft

Note: Per 2018 IRC Section G2407.5.3.2, The volumes of spaces in different stories shall be considered as communicating spaces where such spaces are connected by one or more openings in doors or floors having a total minimum free area of 2 square inches per 1,000 BTU/h of total input rating of all appliances

Is floor where appliances are located open to adjacent level?	Yes
If Yes, what is the area of open space adjacent to appliance area?	610

Per 2018 IRC Section G2407.5.1 (Standard Method), the minimum required volume shall be 50 cubic feet per 1,000 BTU/hr
(Total BTU/hr / 1,000 BTU/hr x 50 ft³)

Required air space in combined areas:	7500 ft ³
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Required combined area:	857 ft ²
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Area of Combined Space > Required combined area?	OK
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Per Section G2407.5.3.1, each opening shall have a minimum free area of 1 square inch per 1,000 BTU/hr of the total input rating of all appliances in the space, but not less than 100 square inches. One opening shall commence within 12 inches of the top and one opening shall commence within 12 inches of the bottom of the enclosure. The minimum dimension of air openings shall be not less than 3 inches.

Minimum required opening area:	150 in ²
Minimum grill size:	14 x 11 (inches)

Note: two grills required - one within 12" of floor, one within 12" of clg.

