

4 Small Dwelling Unit with Non-Forced Air Heating System SENTENCE 9.32.3.4 (6)

For small, non-forced air heated dwellings in mild coastal and moderate interior climates where passive inlets are used to admit ventilation air.

Principal Ventilation Rate Based on Bedroom Count & Square Footage
7.5 cfm/person + 10 cfm per 1000 Sq Ft

Principal Ventilation System
Exhaust Fan Minimum Air-Flow Rate
Minimum capacity sized to Table 9.32.3.5

Principal Fan Control
No control, fan runs continuously. Fan runs continuously.
On/Off Service switch marked "Principal Ventilation"

Continuous

Principal Fan type

Exhaust Fan

CEV

Principal Fan External Static Pressure (ESP)

ESP @ 0.2

ESP @ 0.4

Principal Fan Sound Level
Maximum sound rating

1.0 sone

N/A

Principal Fan Duct Sizing

Ducts sized to Table 9.32.3.8 (3)

Ducts sized to Manufact. requirements

Air Inlets Required
Per 9.32.3.4 (6)(b)
Minimum 4 sq in free area
Location: High wall, minimum 6 ft

1 inlet per bedroom and at least one common area

NOTE: Principal Exhaust Fan Sizing

The smallest fan meeting the capacity requirement is the best choice. For a 2-speed Central Exhaust Ventilator (CEV), choose fan with a low-speed continuous cfm capacity which just meets the capacity requirement in Table 9.32.3.5.

Kitchen & Bath Exhaust Fans
Exhaust fans required in each bathroom and kitchen, unless Principal Fan or CEV exhausts that room

Kitchen or Range Hood Exhaust Fan
Size to Table 9.32.3.6
@.2 ESP static pressure

Bath Exhaust Fan
Size to Table 9.32.3.6
@.2 ESP static pressure

Minimum Exhaust Rate
Table 9.32.3.5

Intermittent only
100 CFM

Intermittent
50 CFM

Continuous
20 CFM

Duct Sizing for these Exhaust Fans

Size Ducts to Table 9.32.3.8 (3)

Room with no openable window
Exhaust inside air or supply outside air per 9.32.2.1 (2) at rate shown

Non-Heating Season Requirement

Air Conditioned
.5 ACH

Not Air Conditioned
1.0 ACH

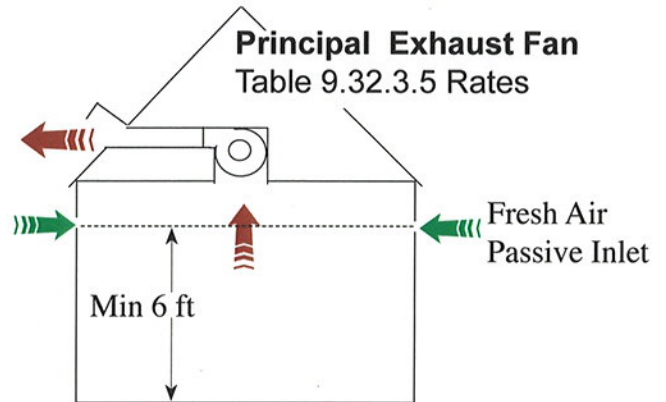
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DU may be single detached, laneway, secondary suite (within a primary DU) or one DU within a MURB (multi-unit residential building)

APPLICATION

- 1) Winter Design Temp: *warmer than -4°F*, and
- 2) DU size 1800 sq ft or less, and
- 3) 1 Storey only, and
- 4) Non-forced air heated with **no** exterior chimneys

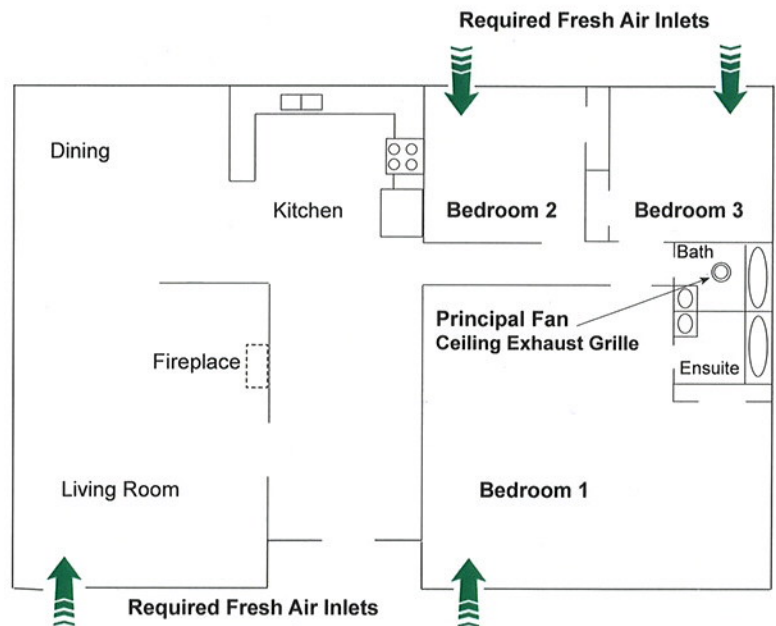
Heating is typically electric or hotwater baseboard, radiant floor or ductless split heat pump.



Inlets with minimum 4 sq in free area required in each Bedroom and at least one common area.

A room is considered a bedroom if it has

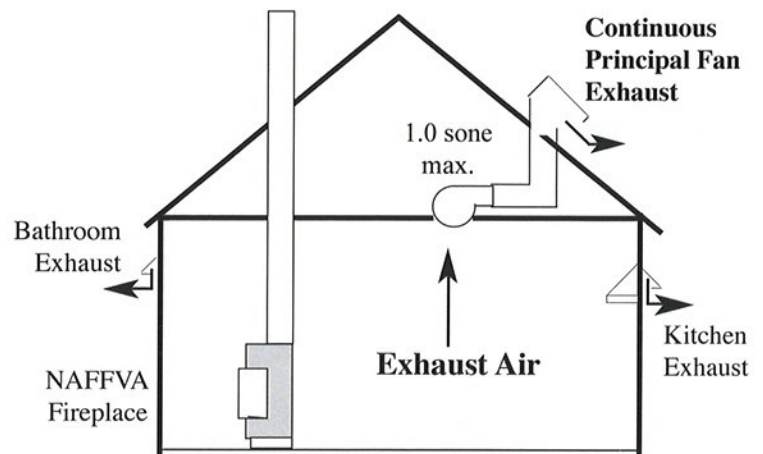
- 1) a window that opens to at least
 - a) 15 inches width or height and
 - b) 3.8 sq ft in area, and
- 2) a closet and
- 3) an interior door which closes



NAFFVA Appliances & Combustion Air

In Addition to ventilation air inlets, combustion air is required for any installed NAFFVA appliance.

TECA strongly recommends against NAFFVA installations in Example 4 dwellings, since almost any fan that could be installed would upset safe chimney operation.



Removed reference to RADON in Make-up Air Requirements

5. Required Inlets for passive Ventilation Air Supply

- a) High wall installation (minimum 6 ft above floor)
- b) Located in each bedroom and at least one common area
- c) Inlet Free Area greater than or equal to 4 Sq In

6. If Heated Crawlspace present

- Choose ventilation option 1, 2, or 3 per sentence 9.32.3.7 (2).

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) present in dwelling unit? (per Sentence 9.32.4.1)

- No, Omit Steps 2 & 3
- Yes, Proceed to Step 2

2. Exhaust Appliance present which exceeds Box C 0.5 ACH:

- No such appliance. Omit Step 3
- Yes, Commit to Depressurization Test (See CAUTION, TECA Vent Manual pg 24)
- Yes, Proceed to Step 3

3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)

Make-up Air Fan required:

Fan Make _____ Model _____ Exhaust Appliance Actual Installed Cfm _____
 Make-up Air Fan Cfm _____
 Duct diameter _____ inches Fan Location _____

- Fan interconnected with exhaust appliance fan.** Fan ducted to _____

a) Active Make-up Air delivered to an Unoccupied Area first (not directly to room containing the appliance).

i) Tempering Required per 9.32.4.1.(4)(a):

Show calculation how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

$$\frac{\text{Make-up Fan cfm} \times 1.08 \times (34^\circ \text{F} - \text{Winter Design Temp your location})}{3412 \text{ BTUH/kw}} = \text{Duct Heater (kw)}$$

ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm: Transfer grill size _____ sq. in. Location _____

iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area: Show calculation and **describe how make-up air will be further tempered** to at least 54°F (12°C).

$$\frac{\text{Make-up Fan cfm} \times 1.08 \times (54^\circ \text{F} - 34^\circ \text{F})}{3412 \text{ BTUH/kw}} = \text{Heat from unoccupied area required to raise temp by } 20^\circ \text{F}$$

Tempered by: _____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation how make-up air will be tempered to at least 54°F (12°C).

$$\frac{\text{Make-up Fan cfm} \times 1.08 \times (54^\circ \text{F} - \text{Winter Design Temp your location})}{3412 \text{ BTUH/kw}} = \text{Duct Heater (kw)}$$

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Installer Certification:

I hereby certify that the design and installation of the ventilation system complies with the 2012 B.C. Building Code, 2014 Section 9.32 Amendment.

Date _____

Print Name _____

Signature _____

Company _____

Phone _____

Checklist 4, pg2 of 2

2012 TECA Ventilation Certification Stamp

