

1 Ventilation Checklist 1—Forced Air Systems SENTENCE 9.32.3.4(2)

Use this Checklist where **forced air heating system ducts intake and distribute** ventilation air.

Civic Address _____		Permit No. _____	
Climate Zone: _____	Number of Bedrooms	<input type="text"/>	(A) A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.
	Total Floor area of living space	<input type="text"/> ft ²	(B)
	Total Interior Volume of Dwelling	<input type="text"/> ft ³	Total volume includes all heated interior spaces (including crawlspace if heated).
.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 =		<input type="text"/> cfm	(C) Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Use the bedroom count from Box (A) and Total square footage from Box (B) above and Table 9.32.3.5. to determine

Minimum Required Principal Exhaust System Capacity cfm (D)

2. Principal System Fan Choice

a) Exhaust Fan continuous running Make _____ Model _____ Sone Rating _____

Location: _____ **Capacity at 0.2 ESP** cfm (E) Must be ≥ than Box (D)
If CEV, capacity @0.4ESP

3. Fan Duct Size and Equivalent Length

a) Installed Equivalent Length:
Length of duct _____ ft + Ext. hood **30 ft +** (_____ # elbows at 10 ft each = _____) = ft (F)

b) Choose type of duct: Flex duct or Rigid (smooth) duct

c) Duct size required to flow Box E cfm through Box F equivalent length of duct = in Ø
Use Table 9.32.3.8 (3) to determine duct size.

4. Required Kitchen and Bathroom Exhaust Fans: Re-list below if Principal Exhaust Fan meets all or part of Kitchen/Bathroom spot Exhaust requirements.

ROOM	REQUIRED EXHAUST RATE Table 9.32.3.6	EXHAUST EQUIPMENT						Principal System CFM
		Spot Exhaust Kitchen & Bath WALL/CEILING FANS					Ex.Fan/CEV	
		Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3)		Max. Equiv. Length per table	Installed Equiv. Length	
		rigid	flex					
* For fan capacities exceeding 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct. See <i>Ventilation Guidelines</i> Appendix page 16-A, <i>Duct Sizing for Larger Fans.</i>							TOTAL (must = Box E)	

Removed reference to RADON in Make-up Air Requirements

5. Fresh Air must be ducted from outside to Return Air of Forced Air Heating for distribution.

- a) Ventilation air duct is connected not more than 15ft, nor less than 10ft upstream of the heating appliance, unless a flow control device is used.
- b) Duct Size for Fresh Air intake to RA. Choose one.
 - Rigid Duct: 4" Ø minimum, must be insulated & vapour barriered for full length, OR
 - Flex Duct: 5"Ø minimum, must be insulated & vapour barriered for full length.
- c) **Furnace fan continuous operation.**

6. Forced Air Heating System is ducted to supply air to every bedroom and any level without a bedroom.

7. If Heated Crawlspace present, (Choose one)

- Minimum of one RA grille located in the crawlspace, OR
- No RA grille in crawlspace, 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:

Exhaust Appliance Actual Installed Cfm _____

Fan Make _____ Model _____ **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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Date _____

Print Name _____

Signature _____

Company _____

Phone _____

Checklist 1, page2of2

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Removed reference to RADON in Make-up Air Requirements

6. HRV Fresh Air Distribution (Choose a or b)

a) Supply Air from HRV direct connect to Return Air of a Forced Air Heating System:

- FA system fan and HRV fan continuous operation and
- FA system ducted to supply air to every bedroom and each floor level without a bedroom

b) Supply Air from HRV distributed independently

- Ducted to every bedroom and each floor level without a bedroom and
- HRV fan continuous operation

7. If Heated Crawlspace present, (Choose one)

- Minimum of one Forced Air System RA grille located in the crawlspace, OR
- No RA grille in crawlspace, 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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3

Ventilation Checklist 3—Distributed CRV Systems SENTENCE 9.32.3.4(5)

Use this Checklist when a ducted Central Recirculating Ventilator (CRV) is used to meet the fresh air intake and distribution requirements and a Principal Exhaust fan meets the exhaust requirements.

Civic Address _____		Permit No. _____	
Climate Zone: _____	Number of Bedrooms	<input style="width: 50px;" type="text"/>	(A) A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.
	Total Floor area of living space	<input style="width: 50px;" type="text"/> ft ²	(B)
	Total Interior Volume of Dwelling	<input style="width: 50px;" type="text"/> ft ³	Total volume includes all heated interior spaces (including crawlspace if heated).
.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 =		<input style="width: 50px;" type="text"/> cfm	(C) Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Use the bedroom count from Box (A) and Total square footage from Box (B) above and Table 9.32.3.5. to determine

Minimum Required Principal Exhaust System Capacity cfm (D)

2. Principal System Fan Choice

a) Exhaust Fan continuous running Make _____ Model _____ Sone Rating _____

Location: _____ **Capacity at 0.2 ESP** cfm (E) Must be ≥ than Box (D)
If CEV, capacity @0.4ESP

3. Fan Duct Size and Equivalent Length

- a) Installed Equivalent Length:
Length of duct _____ ft + Ext. hood **30 ft** + (_____ # elbows at 10 ft each = _____) = ft (F)
- b) Choose type of duct: Flex duct or Rigid (smooth) duct
- c) Duct size required to flow Box E cfm through Box F equivalent length of duct = in Ø
Use Table 9.32.3.8 (3) to determine duct size.

4. Required Kitchen and Bathroom Exhaust Fans: Re-list below if Principal Exhaust Fan meets all or part of Kitchen/Bathroom spot Exhaust requirements.

ROOM	REQUIRED EXHAUST RATE Table 9.32.3.6	EXHAUST EQUIPMENT						Principal System CFM	
		Spot Exhaust Kitchen & Bath WALL/CEILING FANS							Ex.Fan/CEV
		Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3)		Max. Equiv. Length per table	Installed Equiv. Length		
rigid	flex								

* For fan capacities **exceeding** 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct. See *Ventilation Guidelines* Appendix page 16-A, *Duct Sizing for Larger Fans*. © March 2015 TECA All Rights Reserved Checklist 3, pg1of2

TOTAL (must = Box E)

Removed reference to RADON in Make-up Air Requirements

5. CRV Fresh Air Intake & Mixing Fan (Choose a or b)

- a) Box G CFM is minimum 2 times Box E cfm for **+5°F and warmer winter design temperature.**
- b) Box G CFM is minimum 3 times Box E for **less than +5°F winter design temperature.**

Make _____ Model _____ Capacity @ cfm (G)

- c) Duct Size for Fresh Air intake into return air of CRV: **0.4 ESP**
- Min 4"Ø rigid duct, must be insulated & vapour barriered for full length, OR
- Min 5"Ø, flex duct, must be insulated & vapour barriered for full length,

6. CRV Fresh Air Circulation (Choose a or b)

- a) Draw air from bedrooms and Supply air to common area.
- b) Draw air from common area and Supply air to bedrooms.

7. 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: Exhaust Appliance Actual Installed Cfm _____
 Fan Make _____ Model _____ 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.

Make-up Fan cfm _____ X 1.08 X (34° F – _____ °F Winter Design Temp your location) = _____ (kw)
 3412 BTUH/kw Duct Heater

- 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).

Make-up Fan _____ cfm x 1.08 x (54° F – 34°F) = _____ (kw) Heat from unoccupied area
 3412 BTUH/kw required to raise temp by 20°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).

Make-up Fan cfm _____ x 1.08 x (54° F – _____ °F Winter Design Temp your location) = _____ (kw)
 3412 BTUH/kw Duct Heater

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Installer Certification:

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4 Ventilation Checklist 4—Exhaust Fan & Passive Inlets SENTENCE 9.32.3.4(6)

Use this checklist for small (≤ 1800 sqft), single level, **non-forced air** heated dwellings located in *mild coastal & moderate interior climates where winter design temperature is warmer than $-4^{\circ}F$.*

Civic Address _____		Permit No. _____	
Climate Zone: _____	Number of Bedrooms	<input type="text"/>	(A) A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.
	Total Floor area of living space	<input type="text"/> ft ²	(B)
	Total Interior Volume of Dwelling	<input type="text"/> ft ³	Total volume includes all heated interior spaces (including crawlspace if heated).
.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 =		<input type="text"/> cfm	(C) Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Use the bedroom count from Box (A) and Total square footage from Box (B) above and Table 9.32.3.5. to determine

Minimum Required Principal Exhaust System Capacity cfm (D)

2. Principal System Fan Choice

a) Exhaust Fan continuous running Make _____ Model _____ Sone Rating _____

Location: _____ **Capacity at 0.2 ESP** cfm (E) Must be \geq than Box (D)
 If CEV, capacity @0.4ESP

3. Fan Duct Size and Equivalent Length

- a) Installed Equivalent Length:
 Length of duct _____ ft + Ext. hood **30 ft +** (_____ # elbows at 10 ft each = _____) = ft (F)
- b) Choose type of duct: Flex duct or Rigid (smooth) duct
- c) Duct size required to flow Box E cfm through Box F equivalent length of duct = in \varnothing
 Use Table 9.32.3.8 (3) to determine duct size.

4. Required Kitchen and Bathroom Exhaust Fans: Re-list below if Principal Exhaust Fan meets all or part of Kitchen/Bathroom spot Exhaust requirements.

ROOM	REQUIRED EXHAUST RATE Table 9.32.3.6	EXHAUST EQUIPMENT						Principal System CFM
		Spot Exhaust Kitchen & Bath WALL/CEILING FANS					Ex.Fan/CEV	
		Fan Make & Model	CFM @ 0.2 ESP Manf. Rated	*Duct Sizing per Table 9.32.3.8.(3)		Max. Equiv. Length per table	Installed Equiv. Length	
rigid	flex							

* For fan capacities **exceeding** 175cfm in Table 9.32.3.8(3), follow manufacturer's installation instructions or use good engineering practice to size duct. See *Ventilation Guidelines* Appendix page 16-A, *Duct Sizing for Larger Fans*. © March 2015 TECA All Rights Reserved Checklist 4, pg1 of 2

TOTAL (must = Box E)	
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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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1 Forced Air Heating System PER SENTENCE 9.32.3.4 (2)

For all dwellings in all climates where forced air heating systems are used to intake and distribute ventilation air at a minimum to each bedroom and level without a bedroom.

Principal Ventilation Rate Based on Bedroom Count & Square Footage

7.5 cfm/person + 10 cfm per 1000 Sq Ft
(assume 2 people in first bedroom)

Principal Fan Control

Fan runs continuously. On/Off Service switch marked "Principal Ventilation Exhaust Fan"

Principal Fan type

Principal Fan External Static Pressure (ESP)

Principal Fan Sound Level

Maximum sound rating

Principal Fan Duct Sizing

Ventilation Air Supply

- 4"Ø sheet metal (or 5"Ø flex) duct duct insulated & vapour-barriered for its entire length
- connected not more than 15 feet nor less than 10 feet upstream of the forced air heating appliance, unless a flow control device is used.

Heating Appliance Fan Operation

Fan to run continuously. No interconnection with principal Exhaust Fan (or system) required.

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.

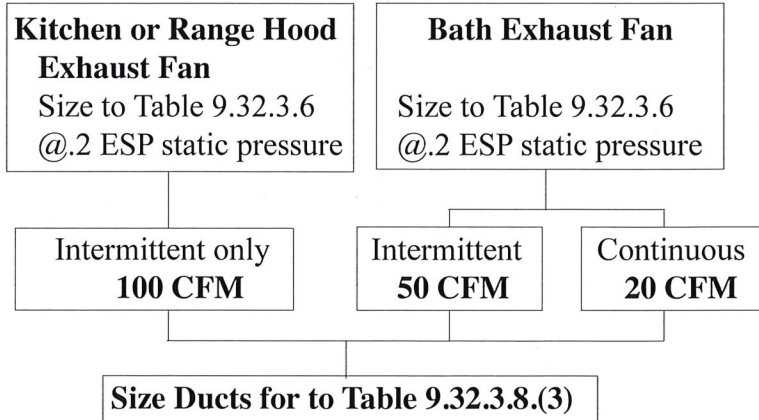
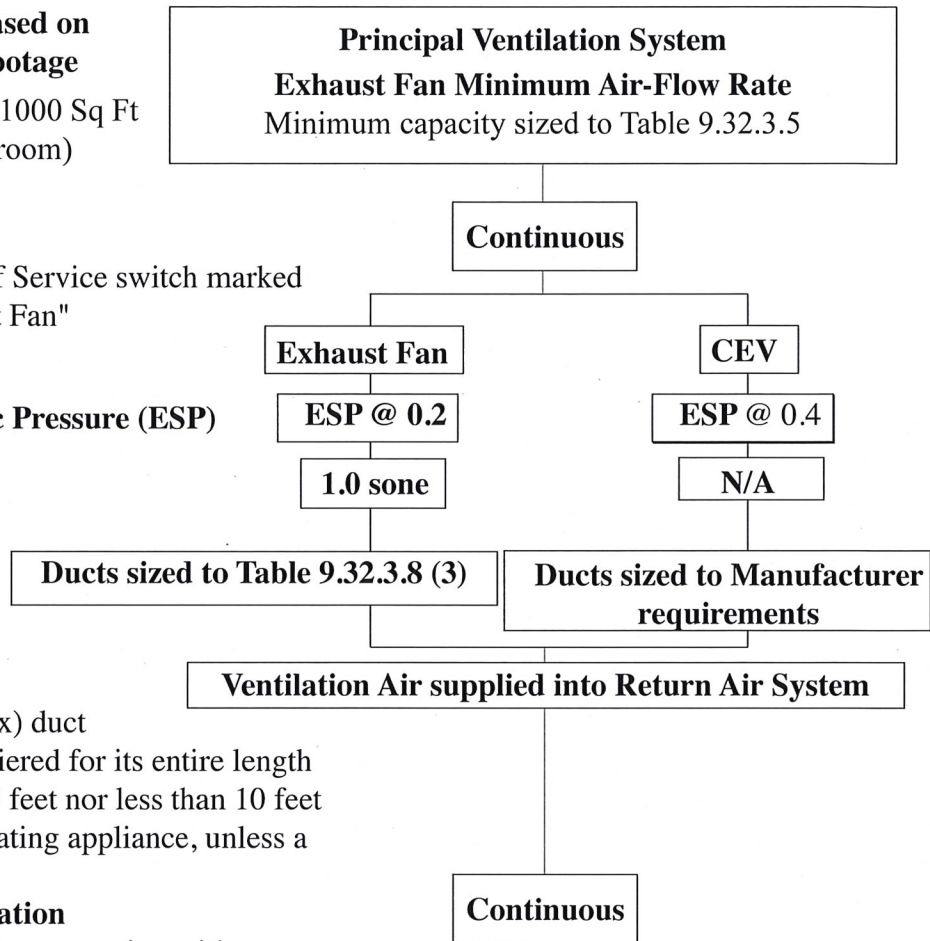
Kitchen & Bath Exhaust Fans

Exhaust fans required in kitchen and each bathroom, unless principal exhaust fan or CEV is ducted to exhaust that bathroom at a minimum rate of 20 cfm

Minimum Exhaust Rate

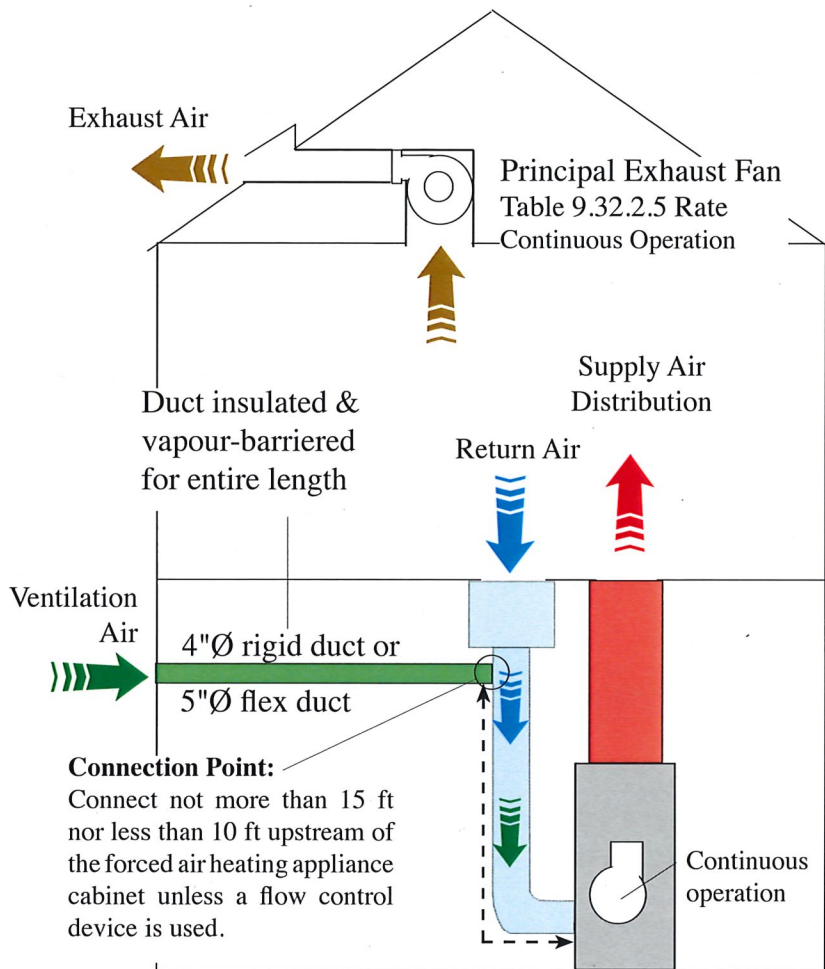
Table 9.32.3.5

Duct Sizing for these Exhaust Fans

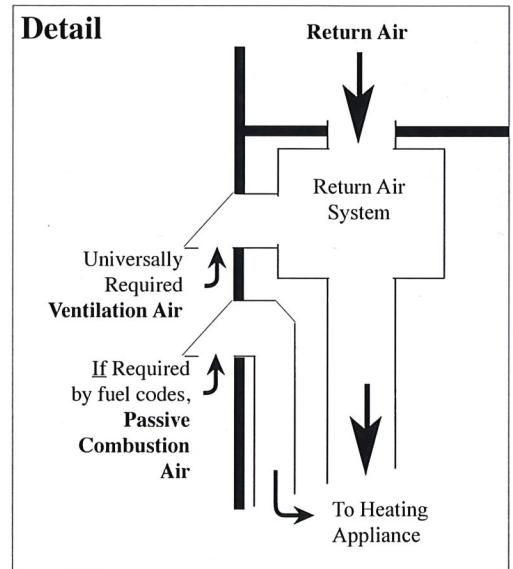


1 Forced Air Heating System PER SENTENCE 9.32.3.4 (2)

APPLICATION: ALL CLIMATES, ALL SIZED DWELLING UNITS

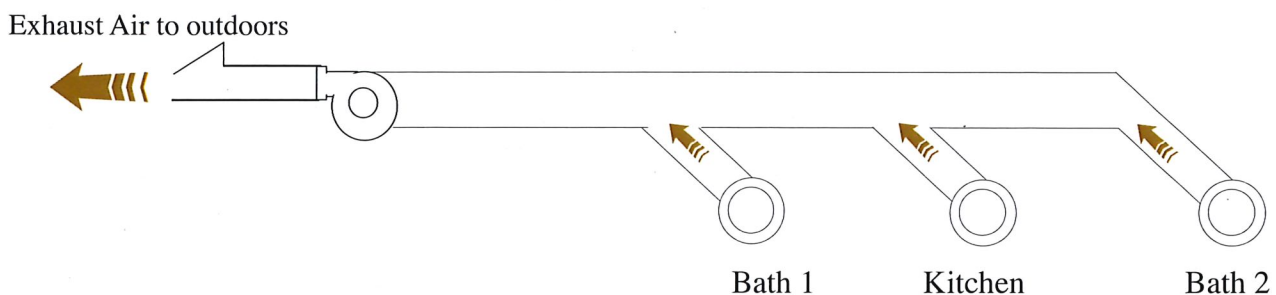


Applies to electric and fuel-fired forced air systems and to fan coils and ducted heat pump systems.



CEV: Central Exhaust Ventilator

A ducted fan installed to exhaust **multiple** stale rooms of the DU (typically the bathrooms and sometimes the kitchen). When this fan is used as a principal exhaust fan, it runs continuously. It must have a marked On/Off service switch. If it is a 2-speed fan, choose fan with a low-speed continuous cfm capacity which just meets the capacity requirement in Table 9.32.3.5. The speed switch must be separate from the On/Off service switch.



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 Fan Control

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

Principal Fan type

Principal Fan External Static Pressure (ESP)

Principal Fan Sound Level

Maximum sound rating

Principal Fan Duct Sizing

Air Inlets Required

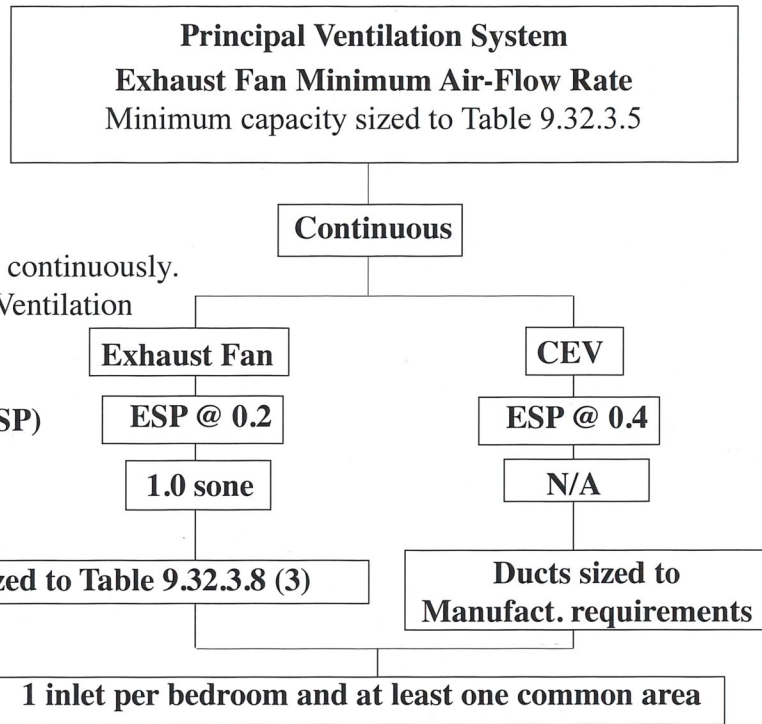
Per 9.32.3.4 (6)(b)

Minimum 4 sq in free area

Location: High wall, minimum 6 ft

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.



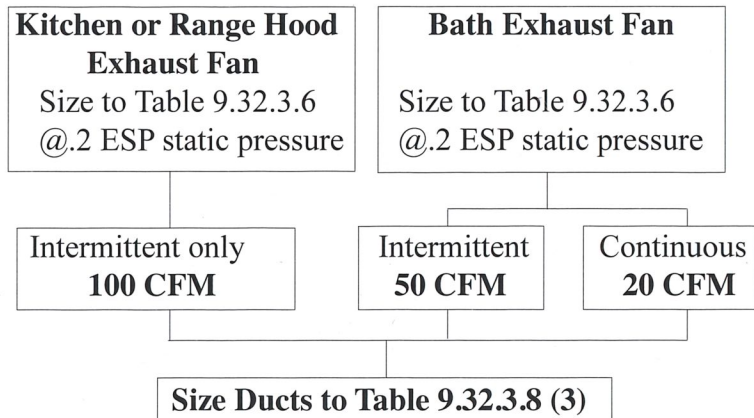
Kitchen & Bath Exhaust Fans

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

Minimum Exhaust Rate

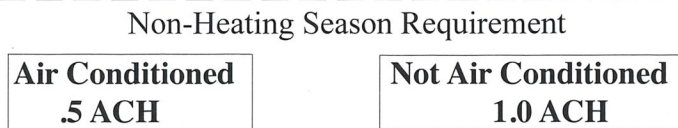
Table 9.32.3.5

Duct Sizing for these Exhaust Fans



Room with no openable window

Exhaust inside air or supply outside air per 9.32.2.1 (2) at rate shown



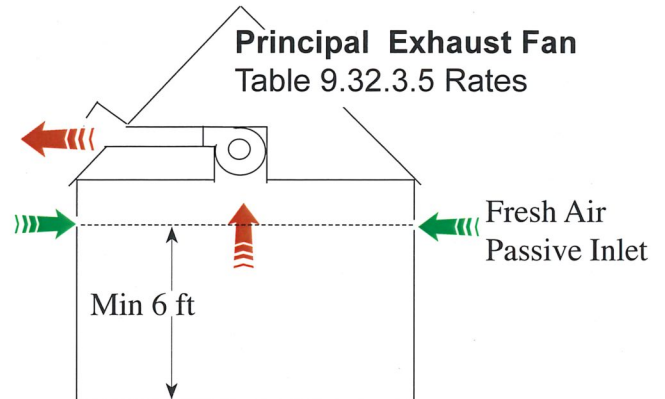
4 Small Dwelling Unit with Non-Forced Air Heating System SENTENCE 9.32.3.4 (6)

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

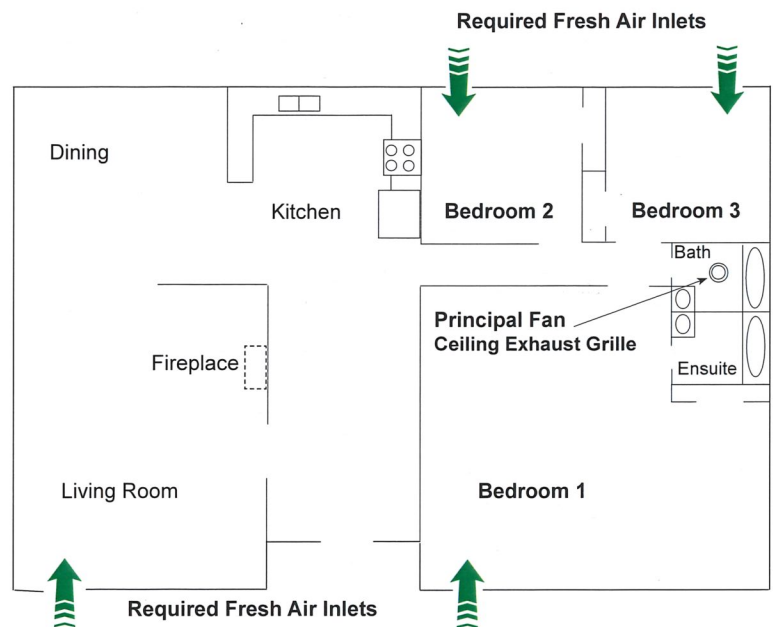
Heating is typically electric or hotwater baseboard, radiant floor or ductless split heat pump.



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.

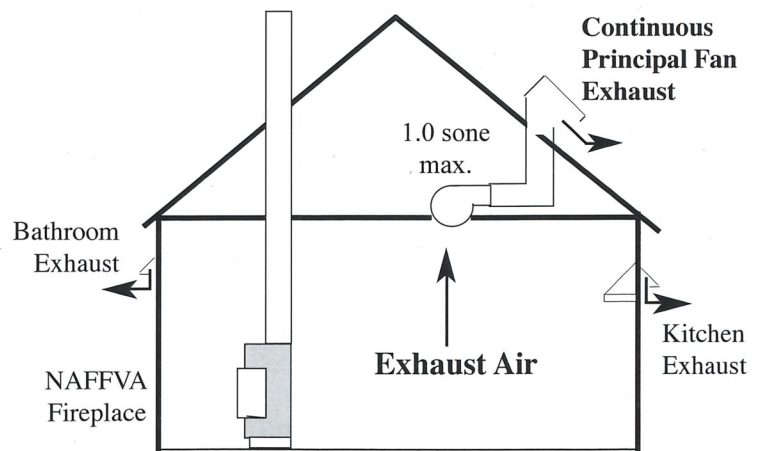


Table 9.32.3.5

Principal Ventilation System Exhaust Fan Minimum Air-flow Rate

Floor Area ft ²	Minimum Air-flow Rate, cfm				
	Number of Bedrooms				
	0-1	2-3	4-5	6-7	>7
<1500	30cfm	45cfm	60cfm	75cfm	90cfm
1500-3000	45	60	75	90	105
3001-4500	60	75	90	105	120
4501-6000	75	90	105	120	135
6001-7500	90	105	120	135	150
>7500	105	120	135	150	165

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,
- 2) a closet and
- 3) an interior door which closes

Sentence 9.32.3.5 (2): "...the capacity rating of the principal ventilation system exhaust fan shall be determined, based on air-flow performance at 50 pa of external static pressure [**0.2 inches water column ESP**]"

Table 9.32.3.6

Kitchen/Bathroom Exhaust Fan Minimum Air-flow Rate

Room	Exhaust Rate cfm	
	Intermittent	Continuous
Kitchen	100	N/A
Bathroom	50	20

Note: Minimum Required Rates at 0.2 inches water column external static pressure (ESP).

Table 9.32.3.8 (3)

**Maximum Equivalent Duct Length, Ft
Wall or Ceiling Exhaust Fan**

Note: Errata for 7' Ø flex duct in Code Table 9.32.3.8 (3) corrected here. (See Appendix page 47-A in this manual for explanation.)

Rigid Duct

Diameter inches Ø	Fan Capacity cfm					
	50cfm	85cfm	100cfm	125cfm	150cfm	175cfm
4	105 ft	50 ft	—	—	—	—
5	150	130	98 ft	59 ft	43 ft	—
6	150	150	150	138	112	79
7	150	150	150	150	150	150

Flexible Duct

Diameter inches Ø	Fan Capacity CFM					
	50cfm	85cfm	100cfm	125cfm	150cfm	175cfm
5	105 ft	50 ft	—	—	—	—
6	150	130	98 ft	59 ft	43 ft	—
7	150	150	150	138	112	79
8	150	150	150	150	150	150

Notes:

Total Equivalent length of a duct is the length of the duct plus 30ft for the exterior hood & 10ft for each 90° elbow. Exhaust duct for range hoods or range top fans must be non combustible (for example, sheet metal) per 9.32.3.8. (6)