

1 Ventilation Checklist 1 – Forced Air Systems SENTENCE 9.32.3.4(6)

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

| | | | |
|---|-----------------------------------|---|---|
| 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

b) Choose either Flex duct or Smooth (rigid) duct

c) Duct size required to flow Box E cfm through equivalent length of duct = in Ø
Use Maximum Equivalent Length 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 | | | | | | | | |
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* 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.

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| TOTAL (must = Box E) | |
|----------------------|--|

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.

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 9.37.3.7 (2)

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) or radon 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 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 & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

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).

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

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Installer Certification:

Date _____

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.

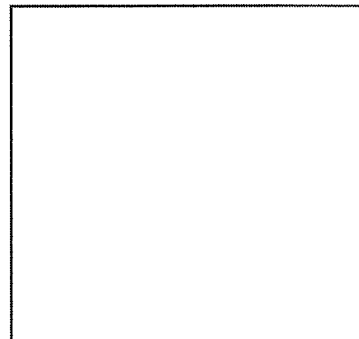
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Signature _____

Company _____

Phone _____



2 Ventilation Checklist 2—HRV Systems

2014 Amendment to Section 9.32 Ventilation

SENTENCE 9.32.3.4 (3) & (4)

Use this checklist when a centrally ducted HRV (heat recovery ventilator) is used alone or in combination with a Forced Air Heating System to meet principal ventilation system requirements.

| | | | |
|---|-----------------------------------|---|---|
| Civic Address _____ | | Permit No. _____ | |
| Climate Zone: _____ | Number of Bedrooms | <input style="width: 50px; height: 20px;" 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; height: 20px;" type="text"/> ft ² | (B) |
| | Total Interior Volume of Dwelling | <input style="width: 50px; height: 20px;" 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; height: 20px;" type="text"/> cfm | (C) Exhaust appliances exceeding .5 ACH may require make-up air. |

1. Use the bedroom count (Box A above) and total square footage (Box B above) to determine the minimum principal Air Flow rate required by Table 9.32.3.5

Minimum Required Rate cfm (D)

2. HRV Make _____ Model _____

3. HRV Capacity: CFM @ 0.4 ESP. Box E must meet Box D requirement. cfm (E)

4. List Exhaust Grilles Locations: 1 minimum @ 6 ft or higher from floor of uppermost level.

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5. Required Kitchen and Bathroom Exhaust

If HRV used to meet all or part of Kitchen/Bathroom spot exhaust requirements list below.

| ROOM | REQUIRED EXHAUST RATE Table 9.32.3.6 | EXHAUST EQUIPMENT | | | | | | Principal System CFM | |
|--|---|---|------------------------------|-------------------------------------|--|------------------------------|-------------------------|----------------------|----------------------|
| | | Spot Exhaust Kitchen & Bath WALL/CEILING FANS | | | | | HRV | | |
| | | 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 | | Principal System CFM |
| | | | | Duct Dia (in Ø) | | | | | |
| rigid | flex | | | | | | | | |
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| * 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. | | | | | | | TOTAL (must = Box E) | | |

See Ventilation Guidelines Appendix page 16-A © February 2015 TECA All Rights Reserved Checklist 2, pg1 of2

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 9.37.3.7 (2)

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) or radon 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 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 & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

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).

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

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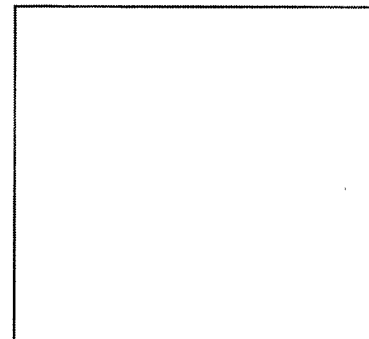
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Signature _____

Company _____

Phone _____



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 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

b) Choose either Flex duct or Smooth (rigid) duct

c) Duct size required to flow Box E cfm through equivalent length of duct = in Ø
Use Maximum Equivalent Length 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) | | Installed Equiv. Length | | |
| rigid | flex | | | Max. Equiv. Length per table | | | | |
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* 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.

| | |
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| TOTAL (must = Box E) | |
|----------------------|--|

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

Capacity @ 0.4 ESP cfm (F)

Make _____ Model _____

- a) Box F CFM is minimum 2 times Box D cfm for +5°F and warmer winter design temperature.
- b) Box F CFM is minimum 3 times Box D for less than +5°F winter design temperature.
- c) Duct Size for Fresh Air intake into return air of CRV:
 - 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 9.37.3.7 (2).

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) or radon-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 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 & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

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).

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

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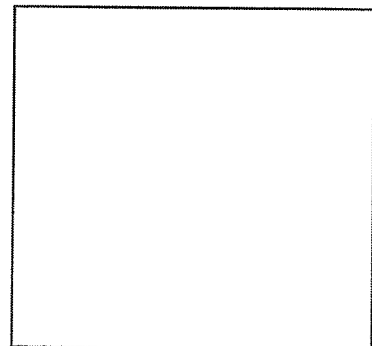
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Signature _____

Company _____

Phone _____



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 coastal climate areas where winter design temperature is warmer than or equal to $+14^{\circ}\text{F}$, -20°C

| | | | |
|---|-----------------------------------|--------------------------------------|---|
| 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
- b) Choose either Flex duct or Smooth (rigid) duct
- c) Duct size required to flow Box E cfm through equivalent length of duct = in \varnothing
Use Maximum Equivalent Length 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 | | | | | |
|-------|--------------------------------------|---|---------------------------|-------------------------------------|--|------------------------------|---------------------------------|
| | | Spot Exhaust Kitchen & Bath WALL/CEILING FANS | | | | | Ex.Fan/CEV Principal System CFM |
| | | Fan Make & Model | CFM @ 0.2 ESP Manf. Rated | *Duct Sizing per Table 9.32.3.8.(3) | | Max. Equiv. Length per table | |
| rigid | flex | | | | | | |
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* 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.

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| TOTAL (must = Box E) | <input type="text"/> |
|----------------------|----------------------|

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 9.37.3.7 (2).

MAKE-UP AIR Requirements

1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) or radon 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 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 & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

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).

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

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Date _____

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