## 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 the Minimum Required Principal Exhaust System Capacity in cfm (D).

### 2. Principal System Fan Choice

**a) Exhaust Fan continuous running**

<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>Sone Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Location: ____________________________ 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 [ ]
- 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.

<table>
<thead>
<tr>
<th>ROOM</th>
<th>REQUIRED EXHAUST RATE Table 9.32.3.6</th>
<th>EXHAUST EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fan Make &amp; Model</td>
<td>CFM @ 0.2 ESP Manf. Rated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Duct Dia (in Ø) rigid</td>
</tr>
</tbody>
</table>

* 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 1, pg1of2
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)
   - 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)
         - 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 – ______°F Winter Design Temp your location) = _______ (kw) Heat from unoccupied area 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)
         - Duct Heater

---

**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 1, page2of2

© March 2015 TECA All Rights Reserved
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 ______ (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 ______ ft² (B) Total volume includes all heated interior spaces (including crawlspace if heated).

Total Interior Volume of Dwelling ______ ft³

.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 = ______ 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. ____________________________________ ____________________________________ ____________________________________

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

<table>
<thead>
<tr>
<th>ROOM</th>
<th>REQUIRED EXHAUST RATE Table 9.32.3.6</th>
<th>EXHAUST EQUIPMENT</th>
<th>HRV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fan Make &amp; Model</td>
<td>CFM @ 0.2 ESP</td>
<td>*Duct Sizing per Table 9.32.3.8.(3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rated</td>
<td>Duct Dia (in Ø)</td>
</tr>
<tr>
<td></td>
<td>rigid</td>
<td>flex</td>
<td>per table</td>
</tr>
</tbody>
</table>

* 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.
Remove 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 Crawlspase 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: 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 required to raise temp by 20°F
         - 3412 BTUH/kw
         - Duct Heater
   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).

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 2, pg2of2

© March 2015 TECA All Rights Reserved

2012 TECA Ventilation Certification Stamp
3 Ventilation Checklist 3—Distributed CRV Systems

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 (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 ft² (B)

Total Interior Volume of Dwelling ft³ (C) Total volume includes all heated interior spaces (including crawlspace if heated).

.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 = cfm (D) 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.

<table>
<thead>
<tr>
<th>ROOM</th>
<th>REQUIRED EXHAUST RATE Table 9.32.3.6</th>
<th>EXHAUST EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fan Make &amp; Model</td>
<td>CFM @ 0.2 ESP</td>
</tr>
<tr>
<td></td>
<td>Ex.Fan/CEV</td>
<td>rigid</td>
</tr>
</tbody>
</table>

* 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
### MAKE-UP AIR Requirements

**1. NAFFV (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:**

<table>
<thead>
<tr>
<th>Fan Make</th>
<th>Model</th>
<th>Exhaust Appliance Actual Installed Cfm</th>
<th>Make-up Air Fan Cfm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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.

  \[
  \text{Make-up Fan cfm} \times 1.08 \times (54°F - \text{Winter Design Temp your location}) = \text{kw (Duct Heater)}
  \]

  - 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).

  \[
  \text{Make-up Fan cfm} \times 1.08 \times (54°F - 34°F) = \text{kw (Heat from unoccupied area required to raise temp by 20°F)}
  \]

  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).

  \[
  \text{Make-up Fan cfm} \times 1.08 \times (54°F - \text{Winter Design Temp your location}) = \text{kw (Duct Heater)}
  \]

**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 3, pg2of2

© Dec 2015 TECA

2015 Code Amendment Edition

© March 2015 TECA All Rights Reserved
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°F.

<table>
<thead>
<tr>
<th>Room</th>
<th>Required Exhaust Rate</th>
<th>Exhaust Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fan Make &amp; Model</td>
<td>CFM @ 0.2 ESP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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.
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: Exhaust Appliance Actual Installed Cfm ______
   Make-up Air Fan Cfm ______
   Make-up Fan cfm ______ X 1.08 X (34° F – ______ °F Winter Design Temp your location) = ______ (kw)
   Duct Heater
   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)
      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
      Duct Heater
      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)
      Duct Heater

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