

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; height: 25px;" 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: 25px;" type="text"/> ft ²	(B)
	Total Interior Volume of Dwelling	<input style="width: 50px; height: 25px;" 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: 25px;" 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)

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

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

Make _____ Model _____ Capacity @ _____ cfm (F)

- 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 9.37.3.7 (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 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

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 _____

2012 TECA Ventilation Certification Stamp

