# Ventilation Checklist 1—Forced Air Systems Sentence 9.32.3.4(2)

Use this	Checklist	where f	forced air	· heating	system	ducts i	ntake and	distribute	ventilation air	

Civic Addre	:ss						Permit N	0
Climate Zor	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	e	ft	2 (B)	closet and	a closing int	erior door.
	Total Int	erior Volume of Dwelling	g	ft	3			all heated interior space if heated).
.5 ACH (air	changes/h	$\text{ar}) = \text{Volume x } 0.5 \div 60 =$	=	cfn	(C)		pliances exc ny require ma	
Use the bed determine	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							
2. Principal S	_	<del>-</del>	v	•	·	L		,
_	•	nuous running Make		N	/lodel_		S	one Rating
				Capaci	ity [		$\overline{}$	<i>2</i> ——
Location: _				at 0.2 1	ESP	ci	fm (E)	Must be≥than Box (D)
	If CEV, capacity @0.4ESP							
	3. Fan Duct Size and Equivalent Length							
a) Installed	-	•						
	Length of ductft + Ext. hood 30 ft + (# elbows at 10 ft each =) = $\frac{ft}{}$ (F) b) Choose type of duct: Flex duct $\square$ or Rigid (smooth) duct $\square$							
b) Choose	• 1		D E -					th) duct
	c) Duct size required to flow Box E cfm through Box F equivalent length of duct  Use Table 9.32.3.8 (3) to determine duct size.						in Ø	
_		nd Bathroom Exhaust F m spot Exhaust requirem		-list be	elow if	Principal	Exhaust	Fan meets all or
	REQUIRED	E	XHAUST	EQUI	PMENT	•		
	EXHAUST	Spot Exhau	Spot Exhaust Kitchen & Bath WALL/CI					Ex.Fan/CEV
ROOM	Rate Table	Fan Make & Model	CFM	CFM *Duct Sizing				Principal
	9.32.3.6		@ 0.2 ESP Manf. Rated	Duct D rigid	ia (in Ø) flex	Max. Equiv. Length per table	Installed Equ Length	System CFM

TOTAL (must = Box E)

Guidelines Appendix page 16-A, Duct Sizing for Larger Fans.

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<sup>\*</sup> 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

#### Removed reference to RADON in Make-up Air Requirements

5. Fresh Air must be ducted from outside to Return Air of Forced Air Hea  a) Ventilation air duct is connected not more than 15ft, nor less than 10ft upstream of device is used						
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	d 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	0 32 3 7 (2)					
MAKE-UP AIR Requirements	9.32.3.1 (2)					
1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) present in dwelling	ng 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 p Yes, Proceed to Step 3	g 24)					
3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)  Make-up Air Fan required: Exhaust Appliance	o Actual Installed Cfm					
Fan Make Model	e Actual Installed Cfm Make-up Air Fan Cfm					
Duct diameterinches Fan Location						
a) Active Make-up Air delivered to an Unoccupied Area first (not directly to roi) Tempering Required per 9.32.4.1.(4)(a):	om containing the appliance).					
Show calculation how make-up air will be tempered to at least 34°F (1°C) b	•					
Make-up Fan cfm X 1.08 X ( <b>34°</b> F – °F Winter Design Temp	$\frac{\text{your location})}{\text{Duct Heater}} = \underline{\qquad} \text{(kw)}$					
ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm: Transfer grill si						
iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupi how make-up air will be further tempered to at least 54°F (12°C).						
<u>Make-up Fan</u> cfm x 1.08 x ( <b>54° F</b> $- 34$ °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 Require 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					
	© March 2015 TECA All Rights Reserved					
Installer Certification:  I hereby certify that the design and installation of the ventilation system	2012 TECA Ventilation Certification Stamp					
complies with the 2012 B.C. Building Code, 2014 Section 9.32 Amendment.						
Date						
Print Name						
Signature						
Company						
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## 2

### Ventilation Checklist 2—HRV Systems 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	(A)	A bedroom is a room with an opena window (minimum dimensions apply)	•		
Total Floor area of living space	ft <sup>2</sup> (B)	closet and a closing interior door.			
Total Interior Volume of Dwelling	$ft^3$	Total volume includes all heated inte spaces (including crawlspace if heated).			
.5 ACH (air changes/hr) = Volume x $0.5 \div 60 =$	cfm (C)	Exhaust appliances exceeding .5 ACH may require make-up air.			
1. Use the bedroom count (Box A above) and tota minimum principal Air Flow rate required by Ta Minin	-		ne (D)		
2. HRV Make N	-				
3. HRV Capacity: CFM @ 0.4 ESP. Box E must meet Box D requirement.					
4. List Exhaust Grilles Locations: 1 minimum @ 6 ft or higher from floor of uppermost level.					
	_				
E Dogwined Witchen and Dathwaren Enhance					

#### 5. Required Kitchen and Bathroom Exhaust

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

	Required	EXHAUST EQUIPMENT							
ROOM	Exhaust Rate	Spot Exhaust Kitchen & Bath WALL/CEILING FANS						HRV	
	Table	Fan Make & Model	CFM	*Duct Sizing per Table			9.32.3.8.(3)	Principal	
ROOM	9.32.3.6		@ 0.2 ESP Manf.	(m 2)		Max. Equiv.	Installed Equiv.	System CFM	
			Rated	rigid	flex	Length per table	Length		
					_				
					-				
					-				
c	• • •						TOTAL		

<sup>\*</sup> 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* 

TOTAL (must = Box E)

Guidelines Appendix page 16-A, Duct Sizing for Larger Fans.

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#### Removed reference to RADON in Make-up Air Requirements

<b>6. HRV Fresh Air Distribution</b> (Choose a or b)						
a) Supply Air from HRV direct connect to Return Air of a For	ced 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	22.2.7.(2)					
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	og unit? (non Sontones 0.22.4.1)					
No, Omit Steps 2 & 3	ig unit: (per semence 9.32.4.1)					
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	g 24)					
Yes, Proceed to Step 3						
3. Use Active Make-up Air for Exhaust Appliance. (Choose a or b)	A					
Make-up Air Fan required: Exhaust Appliance Fan Make Model Model	Actual Installed Cim					
Duct diameterinches Fan Location	viake-up An Tan Cim					
Fan interconnected with exhaust appliance fan. Fan ducted to  a) Active Make-up Air delivered to an Unoccupied Area first (not directly to roo	om containing the appliance)					
i) Tempering Required per 9.32.4.1.(4)(a):	om containing the apphance).					
Show calculation how make-up air will be tempered to at least 34°F (1°C) be	efore entering unoccupied area.					
Make-up Fan cfm X 1.08 X (34° F – °F Winter Design Temp	your location) — (km)					
3412 BTUH/kw	$\frac{\text{your location})}{\text{Duct Heater}} = \frac{\text{(kw)}}{\text{Duct Heater}}$					
ii) Transfer Grill Required: Size 1 sq in of gross area per 2 cfm: Transfer grill size						
iii) Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupie						
how make-up air will be further tempered to at least 54°F (12°C).						
Make-up Fancfm x 1.08 x ( <b>54° F</b> $- 34$ °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 Require	ed. 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)					
© March 2015 TECA All Rights Reserved 3412 BTUH/kw	Duct Heater					
Installer Certification:						
	2012 TECA Ventilation					
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.						
compiles with the 2012 Biel Bunding Code, 2011 Section 7.527 Michainena						
Date						
Print Name						
Signature						
o.g.u.u.v_						
Company	1					
	]					
Phone						
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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.

		1	I					• • • • • • • • • • • • • • • • • • • •	
Civic Addres	SS						Permit N	lo	
Climate Zone: Number of Bedrooms			S		(A)	A bedroom is a room with an openal window (minimum dimensions apply).			
	Total Floor area of living space			ft²	(B)	closet and	erior door.		
·	Total Inte	erior Volume of Dwelling	5	ft³		Total volume includes all heated into spaces (including crawlspace if heated)			
.5 ACH (air	changes/h	r) = Volume x $0.5 \div 60 =$		cfm	Ī	Exhaust appliances exceeding .5 ACH may require make-up air.			
1 Duinging V	Vantilation	Cystom Exhaust Fon N	/inim	A i 4	9 o z z z 10	0.40			
_		n System Exhaust Fan M from Box (A) and Total sq					and Tabl	e 9.32.3.5. to	
Minin	•	nired Prinicpal Exhaust	System	Capac	eity		cfm	(D)	
2. Principal S a) Exhaust B	•	n Cnoice wous running Make		1.	lodel_		9	one Rating	
u) Exitudist I	an contin	dous running wake		r Capaci			u	one Raing	
Location: _				capaci at 0.2 E	•	cfm	(E) Must be	e≥ than Box (D)	
_		,			L	ty @0.4ES	` '	_	
3. Fan Duct S	Size and E	<b>Equivalent Length</b>			оприот	., 00.120	•		
a) Installed	Equivalen	nt Length:							
Length o	of duct	ft + Ext. hood 30 ft + (	(#	elbows	at 10	ft each =_	) =	ft (F)	
b) Choose t	• 1							th) duct $\square$	
		to flow Box E cfm throug		F equiv	alent l	ength of o	duct =	1 1	
		(3) to determine duct size						in Ø	
		nd Bathroom Exhaust Fa		e-list be	low if	Principal	Exhaust	Fan meets all or	
part of Kitche		m spot Exhaust requireme							
	REQUIRED EXHAUST		KHAUST						
	RATE	Spot Exhaust Kit		ļ		Ex.Fan/CEV			
ROOM	Table	Fan Make & Model	CFM @ 0.2 ESP			Sizing per Table 9		<del></del>	
	9.32.3.6		Manf.	Duct Di	a (in Ø) flex	Max. Equiv. Length per	Installed Equ Length	oiv. System CFM	
· -			Rated	rigiu	nex	table			
					· <del></del>				
* Fan fan a	<u> </u>	4: 175.C	2.0(2) (	2.11		<u> </u>	TOTA	AT.	
rorian capa	cines excee	eding 175cfm in Table 9.32.	.3.8(3), 1	ollow m	ianutao	cturer's	(	···	

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installation instructions or use good engineering practice to size duct. See Ventilation

(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	S°F and warmer winter design temperature.
b) Box G CFM is minimum 3 times Box E for less th	
Make Model	
c) Duct Size for Fresh Air intake into return air of CR	
Min 4"Ø rigid duct, must be insulated & vapour barrie	
Min 5"Ø, flex duct, must be insulated & vapour barrie	ered for full length,
<b>6. CRV Fresh Air Circulation</b> (Choose a or b)	
a) Draw air from bedrooms and Supply air to commo	
b) Draw air from common area and Supply air to bed	rooms.
7. If Heated Crawlspace present	
Choose ventilation option 1, 2, or 3 per sentence 9.32 <b>MAKE-UPAIR Requirements</b>	3.7 (2).
1. NAFFVA (Naturally Aspirated Fuel Fired Vented Appl	iance) present in dwelling unit? (per Sentence 9 32 4 1)
No, Omit Steps 2 & 3	nuite) present in twening time. (per semence 7.32.4.1)
Yes, Proceed to Step 2	
2. Exhaust Appliance present which exceeds Box C 0.5	SACH
No such appliance. Omit Step 3	ACII.
Yes, Commit to Depressurization Test (See CAUTIC	N. TECA Vent Manual pg 24)
Yes, Proceed to Step 3	11, 12011 (010111111111 PS 21)
3. Use Active Make-up Air for Exhaust Appliance. (Choo	ose a or b)
Fan Make Model	Exhaust Appliance Actual Installed Cfm Make-up Air Fan Cfm
	Location
Fan interconnected with exhaust appliance fan. Far	
a) Active Make-up Air delivered to an Unoccupied Ar	
i) Tempering Required per 9.32.4.1.(4)(a):	
	d to at least 34°F (1°C) before entering unoccupied area.
Maka un Ean afm V 1 09 V (349 E	<sup>o</sup> E Winter Design Temp your location)
Make-up Fan cfm X 1.08 X ( <b>34°</b> F –	2 BTUH/kw Duct Heater
	er 2 cfm: Transfer grill sizesq. in. Location before transfer to occupied area: Show calculation and <b>describe</b>
how make-up air will be further tempered to at 1	•
Make-up Fancfm x 1.08 x (54°	
_	
3412 BTUH/kw	required to raise temp by 20°F
Tempered by:	
OR b) Active Make-up Air delivered to an Occupied A	rea: 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)
© March 2015 TECA All Rights Reserved 3412 B7	
Installer Certification:	2012 TECA Ventilation
I hereby certify that the design and installation of the ven	
complies with the 2012 B.C. Building Code, 2014 Section	
compiles with the 2012 Biol Bunding Code, 2011 Seeds	. 515 2
Date	
Print Name	
Signature	
Company	
Dhono	
Phone Checklist 3, pg2of2	
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