

# OBC DUCT SIZING - PRINCIPAL FAN DUCT

for design and performance of residential ventilation systems to OBC 2012 - 9.32

<b>1. Design Condition</b> Location: _____ # of Bedrooms: _____ Design Airflow: _____ cfm    ESP: _____ " w.c. Note: external static pressure of the fan needs to be in accordance with OBC 9.32.3.9.(3)	<b>2. Equipment</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;">Coupled to Forced Air</td> <td style="width: 33%; text-align: center;">Not Coupled</td> </tr> <tr> <td style="text-align: center;">HRV/ERV</td> <td style="text-align: center;">Exhaust Fan</td> <td style="text-align: center;">Inline Fan</td> </tr> <tr> <td>Make: _____</td> <td colspan="2"></td> </tr> <tr> <td>Model: _____</td> <td colspan="2"></td> </tr> <tr> <td>Equipment Rated Airflow: _____ cfm @ _____ " w.c.</td> <td colspan="2"></td> </tr> </table>		Coupled to Forced Air	Not Coupled	HRV/ERV	Exhaust Fan	Inline Fan	Make: _____			Model: _____			Equipment Rated Airflow: _____ cfm @ _____ " w.c.		
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<b>3. Duct Sizing using Table 9.32.3.4.B</b>	Longest Total Duct Length from Grille to Outdoor Hood: _____ (39' max)				
# of elbows used: _____ (4 max)					
	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Trunk</td> <td style="width: 50%; text-align: center;">Branch</td> </tr> <tr> <td style="text-align: center;">Smooth      Flex</td> <td style="text-align: center;">Smooth      Flex</td> </tr> </table>	Trunk	Branch	Smooth      Flex	Smooth      Flex
Trunk	Branch				
Smooth      Flex	Smooth      Flex				
Min. Required Diameter for Exhaust Duct: _____	(see Table 9.32.3.4.B)				
Min. Required Dia. for Supply Duct from Outdoor Hood to Return if applicable: _____	(see Table 9.32.3.4.B)				

<b>4. Supply Duct Sizing using Table 9.32.3.7.A &amp; 9.32.3.7.B - For Systems not coupled with Forced Air</b>			
Longest Total Duct Length from Grille to Outdoor Hood: _____ (69' max)			
Total # of fittings used: _____ (8 max)			
Min. Required Diameter for Outdoor Supply & Trunk Duct: _____		Smooth	Flex
		(see Table 9.32.3.7.A)	
Min. Required Diameter	1) Master Bedroom	_____	_____ (see Table 9.32.3.7.B)
for Supply Branch Duct To:	2) Other Bedrooms	_____	_____ (see Table 9.32.3.7.B)
	3) Storey with no bedrooms or living area	_____	_____ (see Table 9.32.3.7.B)

<b>5. Diagram</b>	
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<b>OBC Table 9.32.3.4.B - For Reference</b>	<b>Note:</b>																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: center;">Principal Exhaust Fan Duct Size Table 9.32.3.4.B</th> </tr> <tr> <th rowspan="2" style="text-align: center;">Number of Bedrooms in House or Dwelling Unit</th> <th colspan="2" style="text-align: center;">Minimum Exhaust Duct Diameter</th> </tr> <tr> <th style="text-align: center;">Ducts Connected to Inlet and Outlet of Principal Exhaust Fan Smooth Duct</th> <th style="text-align: center;">Ducts Connected to One Side Only of Principal Exhaust Fan Smooth Duct</th> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">4" (100 mm)</td> <td style="text-align: center;">4" (100 mm)</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">5" (125 mm)</td> <td style="text-align: center;">5" (125 mm)</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">5" (125 mm)</td> <td style="text-align: center;">6" (150 mm)</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">6" (150 mm)</td> <td style="text-align: center;">6" (150 mm)</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">6" (150 mm)</td> <td style="text-align: center;">6" (150 mm)</td> </tr> </table>	Principal Exhaust Fan Duct Size Table 9.32.3.4.B			Number of Bedrooms in House or Dwelling Unit	Minimum Exhaust Duct Diameter		Ducts Connected to Inlet and Outlet of Principal Exhaust Fan Smooth Duct	Ducts Connected to One Side Only of Principal Exhaust Fan Smooth Duct	1	4" (100 mm)	4" (100 mm)	2	5" (125 mm)	5" (125 mm)	3	5" (125 mm)	6" (150 mm)	4	6" (150 mm)	6" (150 mm)	5	6" (150 mm)	6" (150 mm)	1) The duct shall always be at least as large as recommended by the manufacturer 2) If flexible ducting is used, it shall be increased by 1" (25 mm). 3) Where more than one exhaust inlet is connected to the principal exhaust fan (PEF), the branch ducts may be reduced by 1" (25 mm) 4) Where the supply and/or exhaust side of PEF is connected to the return side of the forced air heating, the duct shall be increased by 1" (25mm).
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Prepared By: _____	HRAI #: _____	Location: _____
Signature: _____	Date: _____	Official Use: _____

