

NBC DUCT SIZING - BRANCH DUCT

for design and performance of residential ventilation systems to NBC 2015 - 9.32

1. Design Condition Location: _____ System: _____ Design Airflow: _____ cfm ESP: _____ " w.c. (Minimum external static pressure of fans according to Table 9.32.3.10.A)	2. Equipment HRV/ERV Inline Fan Make: _____ Model: _____ Equipment Rated Airflow: _____ cfm @ _____ " w.c.
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3. Branch Duct Sizing (Table 9.32.3.11.A)							
Branch ID	Location	Max Length of Duct (from ext. hood to int. grille)			Airflow	Duct Shape	Duct Size
		(Smooth Length)	+ [2 x Flex Length]	= Total length			

4. Trunk Duct Sizing (Table 9.32.3.11.A)					
Trunk ID	Servicing Branch IDs	Max. of Branch Length	Airflow	Duct Shape	Duct Size
O/A Supply to Fan	All Supply Branches				
E/A from Fan	All Exhaust Branches				

NBC Duct Sizing Table 9.32.3.11.A (Imperial Conversion) - For Reference																	
Fan ESP (in. w.c.)	Duct Diameter (in.)	Maximum airflow in duct CFM						Fan ESP (in. w.c.)	Duct Diameter (in.)	Maximum airflow in duct CFM							
		15	30	50	70	100	150			200	15	30	50	70	100	150	200
		Maximum length of duct (feet)															
0.1	3	20	3	0	0	0	0	0.6	3	193	46	16	6	3	0	0	
	4	82	20	6	3	0	0		4	197	186	72	36	20	6	3	
	5	197	56	20	10	3	0		0	5	197	197	197	111	55	26	13
	6	197	138	52	26	13	6		3	6	197	197	197	197	137	65	36
	7	197	197	111	59	29	13		6	7	197	197	197	197	197	137	78
8	197	197	197	114	59	26	16	8	197	197	197	197	197	197	197	150	
0.2	3	52	13	3	0	0	0	0.25	3	72	16	6	3	0	0		
	4	197	52	20	10	3	0		4	197	68	26	13	6	3	0	
	5	197	154	59	29	16	6		3	5	197	197	78	39	20	10	3
	6	197	197	144	75	39	16		10	6	197	197	101	49	23	13	
	7	197	197	197	160	82	39		23	7	197	197	197	197	108	49	29
8	197	197	197	197	157	72	42	8	197	197	197	197	197	95	55		
0.4	3	124	29	10	3	0	0	>7	3	3 x 6	2 x 4	-----	-----				
	4	197	118	46	23	10	3		4	3 x 10	3 x 4	3 x 5	3 x 6				
	5	197	197	134	72	36	16		10	5	3 x 10	5 x 4	4 x 5	4 x 6			
	6	197	197	197	173	88	39		23	6	3 x 12	8 x 4	6 x 5	5 x 6			
	7	197	197	197	197	186	88		49	7	3 x 14	11 x 4	8 x 5	7 x 6			
8	197	197	197	197	197	167	98	Design to 9.33.4.									

NBC Table 9.32.3.11.B (Imperial Conversion) - For Reference				
Required Round Duct Size (in.)	Permitted Equivalent Rectangular Duct Size, inches			
	Stack Duct	4-inch depth	5-inch depth	6-inch depth
3	3 x 6	2 x 4	-----	-----
4	3 x 10	3 x 4	3 x 5	3 x 6
5	3 x 10	5 x 4	4 x 5	4 x 6
6	3 x 12	8 x 4	6 x 5	5 x 6
7	3 x 14	11 x 4	8 x 5	7 x 6
>7	Design to 9.33.4.			

Prepared By: _____	HRAI #: _____	Location: _____
Signature: _____	Date: _____	Official Use: _____

