RESET

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.**

3. Branch Duct Sizing (Table 9.32.3.11.A)

Branch ID	Location	Max Length of Duct (from ext. hood to int. grille) (Smooth Length) + [2 x Flex Length] = Total length	Airflow	Duct Shape	Duct Size
		+ [2 x] =			
		+ [2 x] =			
		+ [2 x] =			
		+ [2 x] =			
		+ [2 x] =			
		+ [2 x] =			
		+ [2 x] =			
		+ [2 x] =			

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						
		15	30	50	70	100	150	200
		Maximum length of duct (feet)						
0.1	3	20	3	0	0	0	0	0
	4	82	20	6	3	0	0	0
	5	197	56	20	10	3	0	0
	6	197	138	52	26	13	6	3
	7	197	197	111	59	29	13	6
	8	197	197	197	114	59	26	16
0.2	3	52	13	3	0	0	0	0
	4	197	52	20	10	3	0	0
	5	197	154	59	29	16	6	3
	6	197	197	144	75	39	16	10
	7	197	197	197	160	82	39	23
	8	197	197	197	197	157	72	42
0.25	3	72	16	6	3	0	0	0
	4	197	68	26	13	6	3	0
	5	197	197	78	39	20	10	3
	6	197	197	190	101	49	23	13
	7	197	197	197	197	108	49	29
	8	197	197	197	197	197	95	55
0.4	3	124	29	10	3	0	0	0
	4	197	118	46	23	10	3	3
	5	197	197	134	72	36	16	10
	6	197	197	197	173	88	39	23
	7	197	197	197	197	186	88	49
	8	197	197	197	197	197	167	98

Fan ESP (in. w.c.)	Duct Diameter (in.)	Maximum airflow in duct CFM						
		15	30	50	70	100	150	200
		Maximum length of duct (feet)						
0.6	3	193	46	16	6	3	0	0
	4	197	186	72	36	20	6	3
	5	197	197	197	111	55	26	13
	6	197	197	197	197	137	65	36
	7	197	197	197	197	197	137	78
	8	197	197	197	197	197	197	150

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:

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