

Residential Duct Sizing Guide

The following duct sizes are based on a friction drop of .10 inches per 100 feet of lineal duct. This "Equal-Friction" method of duct sizing should be adequate for normal residential furnace heating and air conditioning applications. Larger volumes or higher static pressures should be dealt with on an individual job basis.

Rectangular and Round Duct

Air Volume CFM	Rectangular Duct Height (inches)					Equivalent Round Duct (inches)	Air Volume CFM
	4"	6"	8"	10"	12"		
50	6 x 4					5	50
75	6 x 4					6	75
100	8 x 4	6 x 6				6	100
125	10 x 4	6 x 6				7	125
150	10 x 4	8 x 6				7	150
175	12 x 4	8 x 6				8	175
200	14 x 4	8 x 6				8	200
225	16 x 4	10 x 6				8	225
250	16 x 4	10 x 6				9	250
275		12 x 6	8 x 8			9	275
300		12 x 6	8 x 8			9	300
400		14 x 6	10 x 8			10	400
500		18 x 6	12 x 8	10 x 10		11	500
600		20 x 6	14 x 8	12 x 10		12	600
700		24 x 6	16 x 8	12 x 10		12	700
800		26 x 6	18 x 8	14 x 10	12 x 12	13	800
900		30 x 6	20 x 8	16 x 10	12 x 12	14	900
1000			22 x 8	16 x 10	14 x 12	14	1000
1100			24 x 8	18 x 10	16 x 12	15	1100
1200			26 x 8	20 x 10	16 x 12	15	1200
1300			28 x 8	20 x 10	18 x 12	16	1300
1400			30 x 8	22 x 10	18 x 12	16	1400
1500				24 x 10	20 x 12	16	1500
1600				24 x 10	20 x 12	17	1600
1700				26 x 10	22 x 12	17	1700
1800				28 x 10	22 x 12	18	1800
1900				30 x 10	22 x 12	18	1900
2000					24 x 10	18	2000

HELPFUL BASIC INFORMATION:

When Cooling: You must have 400 CFM of air flow per Ton of A/C (1 Ton equals 12,000 BTU) Approximately 1 CFM of air is required to heat or cool 1 to 1.25 sq. ft. of floor area.

Duct Work

Supplies are located on outside walls.

Returns are located on inside walls. *They should not be located in the same area as the furnace, nor should they be located by moisture sources such as kitchens or bathrooms.*

Return Air CFM must be equal or greater than Supply Air CFM.

Wyes commonly reduce.

Tees split, but do not reduce, and an appropriate reducer must be added.

Dampers on take-off duct runs allow for adjustments of air distribution.

In order to maintain velocity, reduce duct size.

Never locate ducts at the end of the trunk line run. Last take-off run to be located 12" - 18" from end.

Always stagger take-off ducts by 12" to maintain pressure.

Use insulated duct or duct board in unheated spaces.

Flexible duct work must be stretched tightly for maximum air flow.

Information provided is to be used as a guideline only.