

# Accu-Size Heating & Cooling Home Analysis

## Cooling Load (Heat Gain) - 95 Degree Day

ft <sup>2</sup> of Windows	HTM		Heat Gain
North (single)		x 26 =	
North (double)	<u>33</u>	x 21 =	<u>693</u>
NE & NW (single)		x 45 =	
NE & NW (double)		x 35 =	
E & W (single)		x 60 =	
E & W (double)	<u>31</u>	x 49 =	<u>1519</u>
SE & SW (single)		x 50 =	
SE & SW (double)		x 40 =	
South (single)		x 36 =	
South (double)	<u>40</u>	x 25 =	<u>1000</u>
ft <sup>2</sup> of Doors			Heat Gain
Wood (no storm door)	<u>30</u>	x 13 =	<u>390</u>
Wood (w/storm door)		x 9 =	
Insulated Metal Door		x 6 =	
ft <sup>2</sup> of Net Walls			Heat Gain
Wall perimeter	<u>168</u>	x <u>9</u> Wall Height <u>1512</u> less	
<u>134</u> glass & door area = net wall area	<u>1378</u>	ft <sup>2</sup>	
No insulation		x 8 =	
R-13 (3 1/2" Insulation)	<u>1378</u>	x 3 =	<u>4134</u>
R-19 (6" Insulation)		x 2 =	
ft <sup>2</sup> of Ceiling			Heat Gain
No insulation		x 22 =	
R-11 (3" Insulation)		x 4.1 =	
R-19 (6" Insulation)	<u>1332</u>	x 2.6 =	<u>3463</u>
R-30 (10" Insulation)		x 1.6 =	
ft <sup>2</sup> of Floor			Heat Gain
No insulation		x 3 =	
Carpet No Insulation		x 2 =	
R-11 (3" Insulation)	<u>1332</u>	x 1 =	<u>1332</u>
Floor on Slab		x 0 =	<u>0</u>
Infiltration / Ventilation			Heat Gain
Home ft <sup>2</sup>	<u>1332</u>	x 3.5 =	<u>4662</u>
Internal Gains			Heat Gain
Number of People	<u>3</u>	x 530 =	<u>1590</u>
Kitchen & Bath Allowance			<u>1250</u>
Subtotal BTU/h heat gain			<u>20,033</u>
Gains from Duct Work			Heat Gain
In crawl space - (subtotal BTU/h x .09)		=	
In attic - (subtotal BTU/h x .13)		=	<u>2604</u>
Total BTU/h heat gain		=	<u>22,637</u>

## Heat Load (Heat Loss) - 0 Degree Day

ft <sup>2</sup> of Windows			Heat Loss
Single Glass		x 97 =	
Double Glass	<u>104</u>	x 69 =	<u>7176</u>
ft <sup>2</sup> of Doors			Heat Loss
Single Glass Patio		x 99 =	
Double Glass Patio		x 72 =	
Wood No Storm Door	<u>30</u>	x 75 =	<u>2250</u>
Wood w/Storm Door		x 46 =	
Insulated Metal Door		x 35 =	
ft <sup>2</sup> of Net Walls			Heat Loss
Frame (no insulation)		x 20 =	
Frame (3 1/2" insulation)	<u>1378</u>	x 7 =	<u>9646</u>
Frame (6" insulation)		x 5 =	
Masonry (no insulation)		x 37 =	
Masonry (1" insulation)		x 11 =	
ft <sup>2</sup> of Ceiling			Heat Loss
No insulation		x 25 =	
R-11 (3" Insulation)		x 7 =	
R-19 (6" Insulation)	<u>1332</u>	x 4 =	<u>5328</u>
R-30 (10" Insulation)		x 3 =	
ft <sup>2</sup> of Floor Over Crawl Space			Heat Loss
No insulation		x 19 =	
Carpet no Insulation		x 9 =	
R-11 (3+ Insulation)	<u>1332</u>	x 6 =	<u>7992</u>
ft <sup>2</sup> of Floor Over Basement			Heat Loss
No insulation		x 2 =	
Carpet or Insulation		x 1 =	
Perimeter of Slab Floor			Heat Loss
Slab (no insulation)		x 57 =	
Slab (edge Insulation)		x 22 =	
Infiltration / Ventilation			Heat Loss
Home ft <sup>2</sup>	<u>1332</u>	x 4.9 =	<u>6527</u>
Subtotal BTU/h Heat Loss		=	<u>38,919</u>
Losses From Ductwork			Heat Loss
In crawl space - (subtotal BTU/h x .10)		=	
In attic - (subtotal BTU/h x .08)		=	<u>3114</u>
Total BTU/h Heat Loss		=	<u>45,446</u>
80% Furnace Efficiency Loss	x 0.25	=	<u>11,362</u>
90% Furnace Efficiency Loss	X 0.12	=	
Total BTU/h Heat input needed		=	<u>56,808</u>

$$= 168 \text{ ft (Length)}$$

$$\text{Perimeter} = 54 \text{ ft} + 26 \text{ ft} + 22 \text{ ft} + 4 \text{ ft} + 18 \text{ ft} + 4 \text{ ft} + 14 \text{ ft} + 26 \text{ ft}$$