

Residential System Sizing Calculation

Summary

N/A
176 SW Kimberly Lane
Lake City, FL 32025

Project Title:
176 SW Kimberly Lane

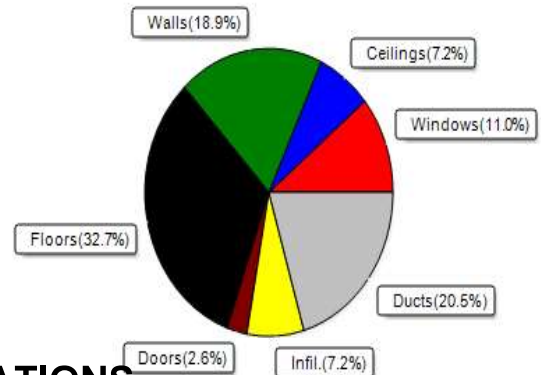
1/29/2024

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)					
Humidity data: Interior RH (50%) Outdoor wet bulb (79F) Humidity difference(54gr.)					
Winter design temperature(MJ8 99%/Cu)33 F			Summer design temperature(MJ8 99%/Cu)99 F		
Winter setpoint 70 F			Summer setpoint 75 F		
Winter temperature difference 37 F			Summer temperature difference 24 F		
Total heating load calculation		26117 Btuh	Total cooling load calculation		25646 Btuh
Submitted heating capacity % of calc Btuh			Submitted cooling capacity % of calc Btuh		
Total (Electric Heat Pump) 107.4 28061			Sensible (SHR = 0.75) 81.3 17593		
Heat Pump + Auxiliary(0.0kW) 107.4 28061			Latent 146.1 5864		
			Total (Electric Heat Pump) 91.5 23457		

WINTER CALCULATIONS

Winter Heating Load (for 1895 sqft)

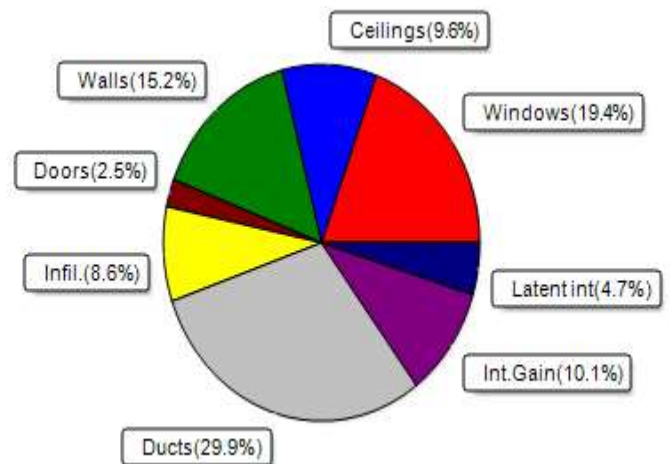
Load component	Load
Window total 215 sqft	2864 Btuh
Wall total 1503 sqft	4936 Btuh
Door total 40 sqft	681 Btuh
Ceiling total 1990 sqft	1869 Btuh
Floor total 1895 sqft	8528 Btuh
Infiltration 47 cfm	1892 Btuh
Duct loss	5348 Btuh
Subtotal	26117 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	26117 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1895 sqft)

Load component	Load
Window total 215 sqft	4974 Btuh
Wall total 1503 sqft	3895 Btuh
Door total 40 sqft	644 Btuh
Ceiling total 1990 sqft	2475 Btuh
Floor total	0 Btuh
Infiltration 35 cfm	920 Btuh
Internal gain	2580 Btuh
Duct gain	6144 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	21632 Btuh
Latent gain(ducts)	1534 Btuh
Latent gain(infiltration)	1280 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	1200 Btuh
Total latent gain	4014 Btuh
TOTAL HEAT GAIN	25646 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

01 / 29 / 2024

W. C. [Signature]

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

N/A
 176 SW Kimberly Lane
 Lake City, FL 32025

Project Title:
 176 SW Kimberly Lane
 Building Type: User

1/29/2024

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 °F (MJ8 99%/Cu)
 Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Whole House									
Window	Panels/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load	
1	2, NFRC 0.25	Vinyl	0.36	N	30.0		13.3	400 Btuh	
2	2, NFRC 0.25	Vinyl	0.36	E	75.0		13.3	999 Btuh	
3	2, NFRC 0.25	TIM	0.36	S	40.0		13.3	533 Btuh	
4	2, NFRC 0.25	Vinyl	0.36	S	30.0		13.3	400 Btuh	
5	2, NFRC 0.25	Vinyl	0.36	S	4.0		13.3	53 Btuh	
6	2, NFRC 0.25	Vinyl	0.36	W	6.0		13.3	80 Btuh	
7	2, NFRC 0.25	Vinyl	0.36	W	30.0		13.3	400 Btuh	
	Window Total					215.0(sqft)			2864 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load	
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	154		3.28	506 Btuh	
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	267		3.28	877 Btuh	
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	50		3.28	164 Btuh	
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	144		3.28	473 Btuh	
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	269		3.28	883 Btuh	
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	318		3.28	1044 Btuh	
7	Frame - Wood	- Adj	(0.089)	13.0/0.0	169		3.28	555 Btuh	
8	Frame - Wood	- Adj	(0.089)	13.0/0.0	132		3.28	433 Btuh	
	Wall Total					1503(sqft)			4936 Btuh
Doors	Type	Storm	Ueff.	R-Value	Area	X	HTM=	Load	
1	Insulated - Exterior,	n	(0.460)		20		17.0	340 Btuh	
2	Insulated - Garage,	n	(0.460)		20		17.0	340 Btuh	
	Door Total					40(sqft)			681Btuh
Ceilings	Type/Color/Surface	Ueff.	R-Value	Area	X	HTM=	Load		
1	Flat ceil/D/Shing	(0.025)	38.0/0.0	1990		0.94	1869 Btuh		
	Ceiling Total					1990(sqft)		1869Btuh	
Floors	Type	Ueff.	R-Value	Size	X	HTM=	Load		
1	Slab On Grade	(1.180)	0.0	195.3 ft(perim.)		43.7	8528 Btuh		
	Floor Total					1895 sqft		8528 Btuh	
Envelope Subtotal:								18877 Btuh	
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	Load		
	Natural		0.16	17055	1.00	46.7	1892 Btuh		
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.257)						5348 Btuh		
All Zones	Sensible Subtotal All Zones							26117 Btuh	

Manual J Winter Calculations

Residential Load - Component Details (continued)

N/A
 176 SW Kimberly Lane
 Lake City, FL 32025

Project Title:
 176 SW Kimberly Lane
 Building Type: User

1/29/2024

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	26117 Btuh 0 Btuh 26117 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	28061 Btuh
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Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
 or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)
 U - (Window U-Factor)
 HTM - (ManualJ Heat Transfer Multiplier)



Version 8

Manual J Summer Calculations

Residential Load - Component Details (continued)

N/A
176 SW Kimberly Lane
Lake City, FL 32025

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
176 SW Kimberly Lane

1/29/2024

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	15488 Btuh
	Sensible Duct Load	6144 Btuh
	Total Sensible Zone Loads	21632 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	21632 Btuh
	Latent infiltration gain (for 54 gr. humidity difference)	1280 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1534 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4014 Btuh
TOTAL GAIN	25646 Btuh	

EQUIPMENT

1. Central Unit	#	23457 Btuh
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*Key: Window types (Panels - Number and type of panes of glass)
 (SHGC - Shading coefficient of glass as SHGC numerical value)
 (U - Window U-Factor)
 (InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
 - For Blinds: Assume medium color, half closed
 For Draperies: Assume medium weave, half closed
 For Roller shades: Assume translucent, half closed
 (IS - Insect screen: none(N), Full(F) or Half(½))
 (Ornt - compass orientation)



Version 8