

Residential System Sizing Calculation

Summary

Proveaux

Project Title:
250941 Proveaux

Lake City, FL

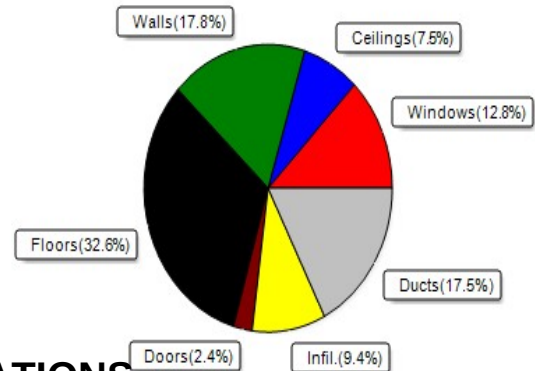
10/15/2025

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(100 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(51gr.)			
Winter design temperature(TMY3 99%)	30 F	Summer design temperature(TMY3 99%)	94 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	40 F	Summer temperature difference	19 F
Total heating load calculation	28813 Btuh	Total cooling load calculation	27712 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	107.6 31000	Sensible (SHR = 0.75)	96.4 23250
Heat Pump + Auxiliary(0.0kW)	107.6 31000	Latent	215.2 7750
		Total (Electric Heat Pump)	111.9 31000

WINTER CALCULATIONS

Winter Heating Load (for 2018 sqft)

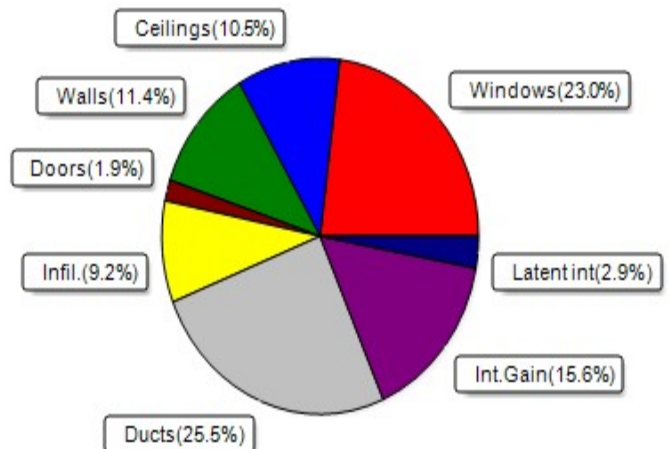
Load component		Load	
Window total	308 sqft	3690	Btuh
Wall total	1443 sqft	5121	Btuh
Door total	44 sqft	704	Btuh
Ceiling total	2122 sqft	2154	Btuh
Floor total	2018 sqft	9393	Btuh
Infiltration	62 cfm	2700	Btuh
Duct loss		5051	Btuh
Subtotal		28813	Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm	0	Btuh
TOTAL HEAT LOSS		28813	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2018 sqft)

Load component		Load	
Window total	308 sqft	6381	Btuh
Wall total	1443 sqft	3152	Btuh
Door total	44 sqft	528	Btuh
Ceiling total	2122 sqft	2908	Btuh
Floor total		0	Btuh
Infiltration	46 cfm	962	Btuh
Internal gain		4320	Btuh
Duct gain		5861	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		24111	Btuh
Latent gain(ducts)		1205	Btuh
Latent gain(infiltration)		1596	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		800	Btuh
Total latent gain		3601	Btuh
TOTAL HEAT GAIN		27712	Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: Evan Beamsley
DATE: 2025-10-15

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Proveaux

Project Title:
250941 Proveaux
Building Type: User

Lake City, FL

10/15/2025

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)

Winter Setpoint: 70 °F (Required Manual J default)

This calculation is for Worst Case. The house has been rotated 45 degrees.

Component Loads for Whole House								
Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.22	Vinyl	0.30	NE	12.5		12.0	150 Btuh
2	2, NFRC 0.22	Vinyl	0.30	NE	6.0		12.0	72 Btuh
3	2, NFRC 0.22	Vinyl	0.30	SE	4.0		12.0	48 Btuh
4	2, NFRC 0.22	Vinyl	0.30	SE	8.0		12.0	96 Btuh
5	2, NFRC 0.22	Vinyl	0.30	SE	32.0		12.0	384 Btuh
6	2, NFRC 0.22	Vinyl	0.30	SE	8.0		12.0	96 Btuh
7	2, NFRC 0.22	Vinyl	0.30	SW	9.0		12.0	108 Btuh
8	2, NFRC 0.22	Vinyl	0.30	SW	15.0		12.0	180 Btuh
9	2, NFRC 0.22	Vinyl	0.30	SW	4.0		12.0	48 Btuh
10	2, NFRC 0.22	Vinyl	0.30	NW	15.0		12.0	180 Btuh
11	2, NFRC 0.22	Vinyl	0.30	NW	54.0		12.0	648 Btuh
12	2, NFRC 0.22	Vinyl	0.30	NE	36.0		12.0	432 Btuh
13	2, NFRC 0.22	Vinyl	0.30	NW	40.0		12.0	480 Btuh
14	2, NFRC 0.22	Vinyl	0.30	NW	32.0		12.0	384 Btuh
15	2, NFRC 0.22	Vinyl	0.30	NW	32.0		12.0	384 Btuh
Window Total					307.5(sqft)			3690 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	291		3.55	1031 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	120		3.55	426 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	18		3.55	64 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	25		3.55	87 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	18		3.55	64 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	99		3.55	350 Btuh
7	Frame - Wood	- Adj	(0.089)	13.0/0.0	33		3.55	117 Btuh
8	Frame - Wood	- Adj	(0.089)	13.0/0.0	163		3.55	579 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	332		3.55	1179 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	174		3.55	618 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	48		3.55	170 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	123		3.55	437 Btuh
Wall Total					1443(sqft)			5121 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior,	n	(0.400)		8		16.0	128 Btuh
2	Insulated - Garage,	n	(0.400)		20		16.0	320 Btuh
3	Insulated - Exterior,	n	(0.400)		16		16.0	256 Btuh
Door Total					44(sqft)			704Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	2018		1.0	2049 Btuh
2	Knee wall/D/Shing		(0.025)	38.0/0.0	104		1.0	106 Btuh
Ceiling Total					2122(sqft)			2154Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Proveaux
Lake City, FL

Project Title:
250941 Proveaux
Building Type: User

10/15/2025

Floors 1	Type Slab On Grade Floor Total	Ueff. (1.180)	R-Value 0.0	Size X 199.0 ft(perim.) 2018 sqft	HTM= 47.2	Load 9393 Btuh 9393 Btuh
	Envelope Subtotal:					21062 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.20	Volume(cuft) 18566	Wall Ratio 1.00	CFM= 61.6	2700 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.213)					5051 Btuh
All Zones	Sensible Subtotal All Zones					28813 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss Total Heat Loss	(Ex:0 cfm; Sup:0 cfm)	28813 Btuh 0 Btuh 28813 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	31000 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

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Proveaux

Project Title:
250941 Proveaux

Lake City, FL

10/15/2025

Reference City: Gainesville, FL (Defaults)
Humidity difference: 51gr.

Temperature Difference: 19.0F(TMY3 99%)
Summer Setpoint: 75 °F (Required Manual J default)

This calculation is for Worst Case. The house has been rotated 45 degrees.

Component Loads for Whole House

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2 NFRC	0.22, 0.30	No	No	NE		1.5ft	1.0ft	12.5	0.0	12.5	10	20	256 Btuh
2	2 NFRC	0.22, 0.30	No	No	NE		1.5ft	1.0ft	6.0	0.0	6.0	10	20	123 Btuh
3	2 NFRC	0.22, 0.30	No	No	SE		1.5ft	1.0ft	4.0	2.9	1.1	10	21	53 Btuh
4	2 NFRC	0.22, 0.30	No	No	SE		1.5ft	1.0ft	8.0	2.9	5.1	10	21	139 Btuh
5	2 NFRC	0.22, 0.30	No	No	SE		6.0ft	0.7ft	32.0	32.0	0.0	10	21	330 Btuh
6	2 NFRC	0.22, 0.30	No	No	SE		1.5ft	1.0ft	8.0	2.9	5.1	10	21	139 Btuh
7	2 NFRC	0.22, 0.30	No	No	SW		1.5ft	1.0ft	9.0	4.4	4.6	10	21	144 Btuh
8	2 NFRC	0.22, 0.30	No	No	SW		1.5ft	1.0ft	15.0	4.4	10.6	10	21	273 Btuh
9	2 NFRC	0.22, 0.30	No	No	SW		1.5ft	1.0ft	4.0	4.0	0.0	10	21	41 Btuh
10	2 NFRC	0.22, 0.30	No	No	NW		1.5ft	1.0ft	15.0	0.0	15.0	10	20	307 Btuh
11	2 NFRC	0.22, 0.30	No	No	NW		1.5ft	1.0ft	54.0	0.0	54.0	10	20	1106 Btuh
12	2 NFRC	0.22, 0.30	No	No	NE		27.0f	1.0ft	36.0	0.0	36.0	10	20	737 Btuh
13	2 NFRC	0.22, 0.30	No	No	NW		10.8f	0.0ft	40.0	0.0	40.0	10	20	819 Btuh
14	2 NFRC	0.22, 0.30	No	No	NW		10.8f	0.0ft	32.0	0.0	32.0	10	20	655 Btuh
15	2 NFRC	0.22, 0.30	No	No	NW		10.8f	0.0ft	32.0	0.0	32.0	10	20	655 Btuh
	Excursion													601 Btuh
	Window Total								308 (sqft)					6381 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load				
1	Frame - Wood - Ext		0.09		13.0/0.0		290.5		2.3		657 Btuh			
2	Frame - Wood - Ext		0.09		13.0/0.0		120.0		2.3		272 Btuh			
3	Frame - Wood - Ext		0.09		13.0/0.0		18.0		2.3		41 Btuh			
4	Frame - Wood - Ext		0.09		13.0/0.0		24.5		2.3		55 Btuh			
5	Frame - Wood - Ext		0.09		13.0/0.0		18.0		2.3		41 Btuh			
6	Frame - Wood - Ext		0.09		13.0/0.0		98.5		2.3		223 Btuh			
7	Frame - Wood - Adj		0.09		13.0/0.0		33.0		1.7		56 Btuh			
8	Frame - Wood - Adj		0.09		13.0/0.0		163.0		1.7		275 Btuh			
9	Frame - Wood - Ext		0.09		13.0/0.0		332.0		2.3		751 Btuh			
10	Frame - Wood - Ext		0.09		13.0/0.0		174.0		2.3		394 Btuh			
11	Frame - Wood - Ext		0.09		13.0/0.0		48.0		2.3		109 Btuh			
12	Frame - Wood - Ext		0.09		13.0/0.0		123.0		2.3		278 Btuh			
	Wall Total							1443 (sqft)				3152 Btuh		
Doors	Type	Area (sqft)		HTM		Load								
1	Insulated - Exterior		8.0		12.0	96 Btuh								
2	Insulated - Garage		20.0		12.0	240 Btuh								
3	Insulated - Exterior		16.0		12.0	192 Btuh								
	Door Total						44 (sqft)				528 Btuh			
Ceilings	Type/Color/Surface	U-Value		R-Value		Area(sqft)		HTM		Load				
1	Vented Attic/DarkShingle		0.025		38.0/0.0		2018.0		1.37		2766 Btuh			
2	Knee wall to attic/DarkShingle		0.025		38.0/0.0		104.0		1.37		143 Btuh			
	Ceiling Total							2122 (sqft)				2908 Btuh		
Floors	Type	R-Value		Size		HTM		Load						
1	Slab On Grade		0.0		2018 (ft-perimeter)		0.0		0 Btuh					
	Floor Total							2018.0 (sqft)				0 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Proveaux

Project Title:
250941 Proveaux

Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

10/15/2025

	Envelope Subtotal:					12969 Btuh
Infiltration	Type Natural	Average ACH 0.15	Volume(cuft) 18566	Wall Ratio 1	CFM= 46.2	Load 962 Btuh
Internal gain		Occupants 4	Btuh/occupant X 230	Appliance +	3400	Load 4320 Btuh
	Sensible Envelope Load:					18250 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.321)					5861 Btuh
	Sensible Load All Zones					24111 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Proveaux

Project Title:
250941 Proveaux

Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

10/15/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	18250 Btuh
	Sensible Duct Load	5861 Btuh
	Total Sensible Zone Loads	24111 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	24111 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1596 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1205 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3601 Btuh
	TOTAL GAIN	27712 Btuh

EQUIPMENT

1. Central Unit	#	31000 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