

# Residential System Sizing Calculation

## Summary

George & Christine Stewart  
215 SW Carpenter Rd  
Lake City, FL 32024

Project Title:  
Stewart Res

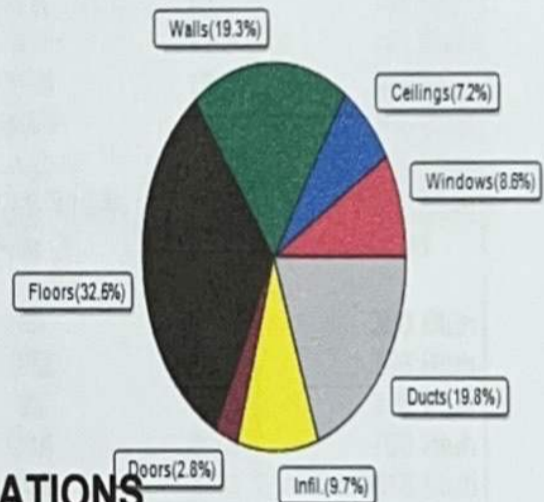
4/17/2026

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
<b>Total heating load calculation</b>	<b>23941 Btuh</b>	<b>Total cooling load calculation</b>	<b>23924 Btuh</b>
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	108.0 25860	Sensible (SHR = 0.75)	82.8 16484
Heat Pump + Auxiliary(0.0kW)	108.0 25860	Latent	136.5 5495
		Total (Electric Heat Pump)	91.9 21978

## WINTER CALCULATIONS

Winter Heating Load (for 1670 sqft)

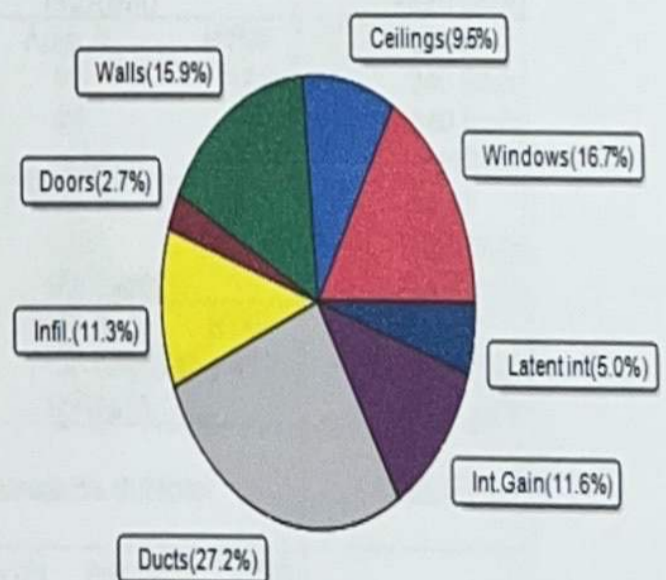
Load component	Area	Load	Unit
Window total	155 sqft	2069	Btuh
Wall total	1407 sqft	4620	Btuh
Door total	40 sqft	681	Btuh
Ceiling total	1837 sqft	1725	Btuh
Floor total	1670 sqft	7771	Btuh
Infiltration	58 cfm	2334	Btuh
Duct loss		4741	Btuh
<b>Subtotal</b>		<b>23941</b>	<b>Btuh</b>
Ventilation Ex:0 cfm; Sup:0 cfm		0	Btuh
<b>TOTAL HEAT LOSS</b>		<b>23941</b>	<b>Btuh</b>



## SUMMER CALCULATIONS

Summer Cooling Load (for 1670 sqft)

Load component	Area	Load	Unit
Window total	155 sqft	3996	Btuh
Wall total	1407 sqft	3808	Btuh
Door total	40 sqft	644	Btuh
Ceiling total	1837 sqft	2285	Btuh
Floor total		0	Btuh
Infiltration	43 cfm	1136	Btuh
Internal gain		2780	Btuh
Duct gain		5251	Btuh
Sens. Ventilation Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load		0	Btuh
<b>Total sensible gain</b>		<b>19899</b>	<b>Btuh</b>
Latent gain(ducts)		1245	Btuh
Latent gain(infiltration)		1579	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
<b>Total latent gain</b>		<b>4025</b>	<b>Btuh</b>
<b>TOTAL HEAT GAIN</b>		<b>23924</b>	<b>Btuh</b>



8th Edition

EnergyGauge® System Sizing

PREPARED BY: *Will C. [Signature]*

DATE: 4 / 17 / 2026

# System Sizing Calculations - Winter

## Residential Load - Whole House Component Details

George & Christine Stewart  
215 SW Carpenter Rd  
Lake City, FL 32024

Project Title:  
Stewart Res  
Building Type: User

4/17/2026

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	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.25	Vinyl	0.36	SW	15.0		13.3	200 Btuh
2	2, NFRC 0.25	Vinyl	0.36	W	30.0		13.3	400 Btuh
3	2, NFRC 0.25	TIM	0.36	W	13.3		13.3	178 Btuh
4	2, NFRC 0.25	Vinyl	0.36	W	15.0		13.3	200 Btuh
5	2, NFRC 0.25	Vinyl	0.36	S	8.0		13.3	107 Btuh
6	2, NFRC 0.25	Vinyl	0.36	S	6.0		13.3	80 Btuh
7	2, NFRC 0.25	Vinyl	0.36	E	9.0		13.3	120 Btuh
8	2, NFRC 0.25	Vinyl	0.36	E	15.0		13.3	200 Btuh
9	2, NFRC 0.25	TIM	0.36	E	40.0		13.3	533 Btuh
10	2, NFRC 0.25	Vinyl	0.36	N	4.0		13.3	53 Btuh
Window Total					155.3(sqft)			2069 Btuh
Walls	Type	Ormt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	92		3.28	300 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	222		3.28	728 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	92		3.28	300 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	214		3.28	703 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	189		3.28	619 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	75		3.28	246 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	226		3.28	741 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	299		3.28	982 Btuh
Wall Total					1407(sqft)			4620 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
2	Insulated - Exterior, 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	1837		0.94	1725 Btuh
Ceiling Total					1837(sqft)			1725Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	178.0 ft(perim.)		43.7	7771 Btuh
Floor Total					1670 sqft			7771 Btuh
Envelope Subtotal:								16866 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		Load
	Natural		0.23	15030	1.00	57.6		2334 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.247)							4741 Btuh

# Manual J Winter Calculations

## Residential Load - Component Details (continued)

George & Christine Stewart  
 215 SW Carpenter Rd  
 Lake City, FL 32024

Project Title:  
 Stewart Res  
 Building Type: User

4/17/2026

All Zones	Sensible Subtotal All Zones	23941 Btuh
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### WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	23941 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	23941 Btuh

### EQUIPMENT

1. Electric Heat Pump	#	25860 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

George & Christine Stewart  
215 SW Carpenter Rd  
Lake City, FL 32024

Project Title:  
Stewart Res

4/17/2026

Reference City: Gainesville, FL (Defaults)  
Humidity difference: 54gr.

Temperature Difference: 24.0F(MJ8 99%/Cu)  
Summer Setpoint: 75 °F (Required Manual J default)

### 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	0.25, 0.36	No	No	SW	1.5ft.	1.0ft.	15.0	4.4	10.6	14	27	343 Btuh	
2	2 NFRC	0.25, 0.36	No	No	W	7.5ft.	1.0ft.	30.0	30.0	0.0	14	33	417 Btuh	
3	2 NFRC	0.25, 0.36	No	No	W	7.5ft.	1.0ft.	13.3	10.4	2.9	14	33	240 Btuh	
4	2 NFRC	0.25, 0.36	No	No	W	1.5ft.	1.0ft.	15.0	0.7	14.3	14	33	477 Btuh	
5	2 NFRC	0.25, 0.36	No	No	S	1.0ft.	3.0ft.	8.0	8.0	0.0	14	16	111 Btuh	
6	2 NFRC	0.25, 0.36	No	No	S	1.0ft.	6.0ft.	6.0	0.0	6.0	14	16	95 Btuh	
7	2 NFRC	0.25, 0.36	No	No	E	1.5ft.	1.0ft.	9.0	0.7	8.3	14	33	281 Btuh	
8	2 NFRC	0.25, 0.36	No	No	E	1.5ft.	1.0ft.	15.0	0.7	14.3	14	33	477 Btuh	
9	2 NFRC	0.25, 0.36	No	No	E	1.5ft.	1.0ft.	40.0	1.5	38.5	14	33	1282 Btuh	
10	2 NFRC	0.25, 0.36	No	No	N	1.0ft.	6.0ft.	4.0	0.0	4.0	14	14	56 Btuh	
Excursion AE														
Window Total								155 (sqft)					3996 Btuh	
Walls	Type	U-Value	R-Value	Area(sqft)	HTM	Load								
			Cav/Sheath											
1	Frame - Wood - Ext	0.09	13.0/0.0	91.5	2.7	248 Btuh								
2	Frame - Wood - Ext	0.09	13.0/0.0	221.7	2.7	600 Btuh								
3	Frame - Wood - Ext	0.09	13.0/0.0	91.5	2.7	248 Btuh								
4	Frame - Wood - Ext	0.09	13.0/0.0	214.0	2.7	579 Btuh								
5	Frame - Wood - Ext	0.09	13.0/0.0	188.5	2.7	510 Btuh								
6	Frame - Wood - Ext	0.09	13.0/0.0	75.0	2.7	203 Btuh								
7	Frame - Wood - Ext	0.09	13.0/0.0	225.5	2.7	610 Btuh								
8	Frame - Wood - Ext	0.09	13.0/0.0	299.0	2.7	809 Btuh								
Wall Total				1407 (sqft)		3808 Btuh								
Doors	Type	Area (sqft)	HTM	Load										
1	Insulated - Exterior	20.0	16.1	322 Btuh										
2	Insulated - Exterior	20.0	16.1	322 Btuh										
Door Total		40 (sqft)		644 Btuh										
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load								
1	Vented Attic/DarkShingle/RB	0.025	38.0/0.0	1837.0	1.24	2285 Btuh								
Ceiling Total				1837 (sqft)		2285 Btuh								
Floors	Type	R-Value	Size	HTM	Load									
1	Slab On Grade	0.0	1670 (ft-perimeter)	0.0	0 Btuh									
Floor Total				1670.0 (sqft)		0 Btuh								
Envelope Subtotal:											10733 Btuh			

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

George & Christine Stewart  
 215 SW Carpenter Rd  
 Lake City, FL 32024

Project Title: Climate:FL\_GAINESVILLE\_REGIONAL\_A  
 Stewart Res

4/17/2026

<b>Infiltration</b>	Type Natural	Average ACH 0.17	Volume(cuft) 15030	Wall Ratio 1	CFM= 43.2	Load 1136 Btuh
<b>Internal gain</b>		Occupants 6	Btuh/occupant X 230	Appliance +	1400	Load 2780 Btuh
	Sensible Envelope Load:					14648 Btuh
<b>Duct load</b>	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.358)					5251 Btuh
	<b>Sensible Load All Zones</b>					<b>19899 Btuh</b>

# Manual J Summer Calculations

## Residential Load - Component Details (continued)

George & Christine Stewart  
215 SW Carpenter Rd  
Lake City, FL 32024

Project Title:  
Stewart Res

Climate:FL\_GAINESVILLE\_REGIONAL\_A

4/17/2026

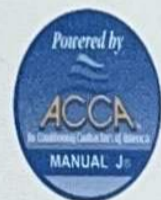
### WHOLE HOUSE TOTALS

<b>Whole House Totals for Cooling</b>	<b>Sensible Envelope Load All Zones</b>	<b>14648 Btuh</b>
	Sensible Duct Load	5251 Btuh
	<b>Total Sensible Zone Loads</b>	<b>19899 Btuh</b>
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	<b>Total sensible gain</b>	<b>19899 Btuh</b>
	Latent infiltration gain (for 54 gr. humidity difference)	1579 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1245 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	<b>Latent total gain</b>	<b>4025 Btuh</b>
	<b>TOTAL GAIN</b>	<b>23924 Btuh</b>

### EQUIPMENT

1. Central Unit	#	21978 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