

Residential System Sizing Calculation

Summary

Donal Parnell
1890 NW Jake Gln
Lake City, FL

Project Title:
260555 Parnell Res

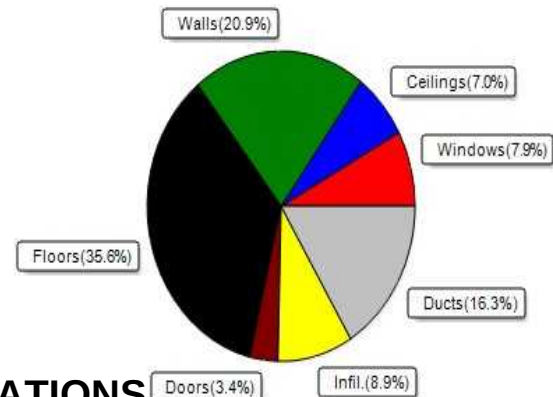
6/29/2026

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	20418	Btuh	Total cooling load calculation	18141	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	107.7	22000	Sensible (SHR = 0.75)	105.5	16500
Heat Pump + Auxiliary(0.0kW)	107.7	22000	Latent	219.3	5500
			Total (Electric Heat Pump)	121.3	22000

WINTER CALCULATIONS

Winter Heating Load (for 1399 sqft)

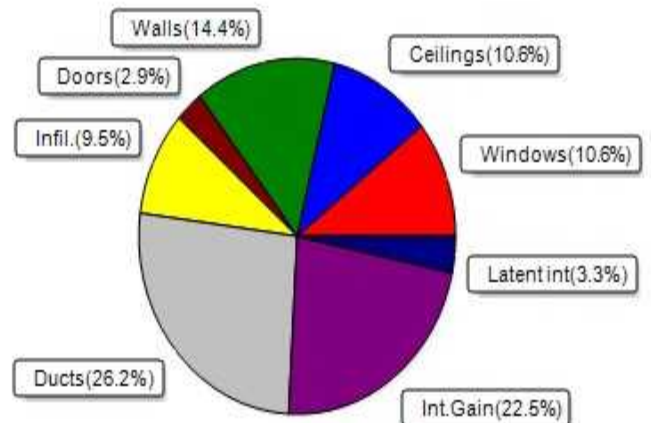
Load component	Load
Window total 134 sqft	1614 Btuh
Wall total 1203 sqft	4271 Btuh
Door total 43 sqft	693 Btuh
Ceiling total 1399 sqft	1420 Btuh
Floor total 1399 sqft	7269 Btuh
Infiltration 41 cfm	1815 Btuh
Duct loss	3336 Btuh
Subtotal	20418 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	20418 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1399 sqft)

Load component	Load
Window total 134 sqft	1930 Btuh
Wall total 1203 sqft	2606 Btuh
Door total 43 sqft	520 Btuh
Ceiling total 1399 sqft	1917 Btuh
Floor total	0 Btuh
Infiltration 31 cfm	647 Btuh
Internal gain	4090 Btuh
Duct gain	3924 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	15634 Btuh
Latent gain(ducts)	835 Btuh
Latent gain(infiltration)	1073 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	600 Btuh
Total latent gain	2507 Btuh
TOTAL HEAT GAIN	18141 Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: Evan Beamsley
DATE: 2026-06-29

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Donal Parnell
1890 NW Jake Gln
Lake City, FL

Project Title:
260555 Parnell Res
Building Type: User

6/29/2026

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)
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 0.22	Vinyl	0.30	N	30.0		12.0	360 Btuh
2	2, NFRC 0.22	Vinyl	0.30	N	13.3		12.0	160 Btuh
3	2, NFRC 0.22	Vinyl	0.30	N	18.0		12.0	216 Btuh
4	2, NFRC 0.22	Vinyl	0.30	N	4.0		12.0	48 Btuh
5	2, NFRC 0.22	Vinyl	0.30	E	15.0		12.0	180 Btuh
6	2, NFRC 0.22	Vinyl	0.30	S	20.0		12.0	240 Btuh
7	2, NFRC 0.22	Vinyl	0.30	S	16.7		12.0	200 Btuh
8	2, NFRC 0.22	Vinyl	0.30	W	2.5		12.0	30 Btuh
9	2, NFRC 0.22	Vinyl	0.30	W	15.0		12.0	180 Btuh
Window Total					134.5(sqft)			1614 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	320		3.55	1134 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	286		3.55	1015 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	142		3.55	504 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	25		3.55	89 Btuh
5	Frame - Wood	- Adj	(0.089)	13.0/0.0	63		3.55	225 Btuh
6	Frame - Wood	- Adj	(0.089)	13.0/0.0	52		3.55	184 Btuh
7	Frame - Wood	- Adj	(0.089)	13.0/0.0	87		3.55	309 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	229		3.55	811 Btuh
Wall Total					1203(sqft)			4271 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior,	n	(0.400)		7		16.0	107 Btuh
2	Insulated - Exterior,	n	(0.400)		17		16.0	267 Btuh
3	Insulated - Garage,	n	(0.400)		20		16.0	320 Btuh
Door Total					43(sqft)			693Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	1399		1.0	1420 Btuh
Ceiling Total					1399(sqft)			1420Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	154.0 ft(perim.)		47.2	7269 Btuh
Floor Total					1399 sqft			7269 Btuh
	Envelope Subtotal:							15267 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		Load
	Natural		0.20	12591	1.00	41.4		1815 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.195)							3336 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Donal Parnell
1890 NW Jake Gln
Lake City, FL

Project Title:
260555 Parnell Res
Building Type: User

6/29/2026

All Zones	Sensible Subtotal All Zones	20418 Btuh
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WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	20418 Btuh 0 Btuh 20418 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	22000 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

Donal Parnell
1890 NW Jake Gln
Lake City, FL

Project Title:
260555 Parnell Res

6/29/2026

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

Temperature Difference: 19.0F(TMY3 99%)
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	0.22, 0.30	No	No	N		1.3ft	1.5ft	30.0	30.0	0.0	10	12	310	Btuh	
2	2 NFRC	0.22, 0.30	No	No	N		1.3ft	1.5ft	13.3	12.2	1.2	10	12	140	Btuh	
3	2 NFRC	0.22, 0.30	No	No	N		1.3ft	1.5ft	18.0	18.0	0.0	10	12	186	Btuh	
4	2 NFRC	0.22, 0.30	No	No	N		1.3ft	1.5ft	4.0	4.0	0.0	10	12	41	Btuh	
5	2 NFRC	0.22, 0.30	No	No	E		1.3ft	1.5ft	15.0	0.0	15.0	10	27	404	Btuh	
6	2 NFRC	0.22, 0.30	No	No	S		1.3ft	1.5ft	20.0	0.0	20.0	10	10	207	Btuh	
7	2 NFRC	0.22, 0.30	No	No	S		6.3ft	1.0ft	16.7	0.0	16.7	10	10	172	Btuh	
8	2 NFRC	0.22, 0.30	No	No	W		1.3ft	1.5ft	2.5	0.0	2.5	10	27	67	Btuh	
9	2 NFRC	0.22, 0.30	No	No	W		1.3ft	1.5ft	15.0	0.0	15.0	10	27	404	Btuh	
	Window Total								134 (sqft)				1930 Btuh			
Walls	Type					U-Value	R-Value		Area(sqft)			HTM		Load		
							Cav/Sheath									
1	Frame - Wood - Ext						0.09	13.0/0.0		319.5			2.3		723	Btuh
2	Frame - Wood - Ext						0.09	13.0/0.0		285.8			2.3		647	Btuh
3	Frame - Wood - Ext						0.09	13.0/0.0		142.0			2.3		321	Btuh
4	Frame - Wood - Ext						0.09	13.0/0.0		25.2			2.3		57	Btuh
5	Frame - Wood - Adj						0.09	13.0/0.0		63.3			1.7		107	Btuh
6	Frame - Wood - Adj						0.09	13.0/0.0		51.8			1.7		87	Btuh
7	Frame - Wood - Adj						0.09	13.0/0.0		87.0			1.7		147	Btuh
8	Frame - Wood - Ext						0.09	13.0/0.0		228.5			2.3		517	Btuh
	Wall Total								1203 (sqft)						2606 Btuh	
Doors	Type					U-Value	R-Value		Area (sqft)			HTM		Load		
1	Insulated - Exterior									6.7			12.0		80	Btuh
2	Insulated - Exterior									16.7			12.0		200	Btuh
3	Insulated - Garage									20.0			12.0		240	Btuh
	Door Total								43 (sqft)						520 Btuh	
Ceilings	Type/Color/Surface					U-Value	R-Value		Area(sqft)			HTM		Load		
1	Vented Attic/DarkShingle						0.025	38.0/0.0		1399.0			1.37		1917	Btuh
	Ceiling Total								1399 (sqft)						1917 Btuh	
Floors	Type					U-Value	R-Value		Size			HTM		Load		
1	Slab On Grade							0.0		1399 (ft-perimeter)			0.0		0	Btuh
	Floor Total								1399.0 (sqft)						0 Btuh	
	Envelope Subtotal:														6974 Btuh	
Infiltration	Type					Average ACH	Volume(cuft)		Wall Ratio		CFM=		Load			
	Natural						0.15	12591		1		31.0		647	Btuh	
Internal gain							Occupants	Btuh/occupant		Appliance		Load				
							3	X 230		+		3400		4090	Btuh	
	Sensible Envelope Load:														11710 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

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1890 NW Jake Gln
Lake City, FL

Project Title:
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Climate:FL_GAINESVILLE_REGIONAL_A

6/29/2026

Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.335)	3924 Btuh
	Sensible Load All Zones	15634 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Donal Parnell
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Lake City, FL

Project Title:
260555 Parnell Res

Climate:FL_GAINESVILLE_REGIONAL_A

6/29/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	11710 Btuh
	Sensible Duct Load	3924 Btuh
	Total Sensible Zone Loads	15634 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	15634 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1073 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	835 Btuh
	Latent occupant gain (3.0 people @ 200 Btuh per person)	600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	2507 Btuh
	TOTAL GAIN	18141 Btuh

EQUIPMENT

1. Central Unit	#	22000 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