

Residential System Sizing Calculation

Summary

Project Title:
Anderson Residence

, FL

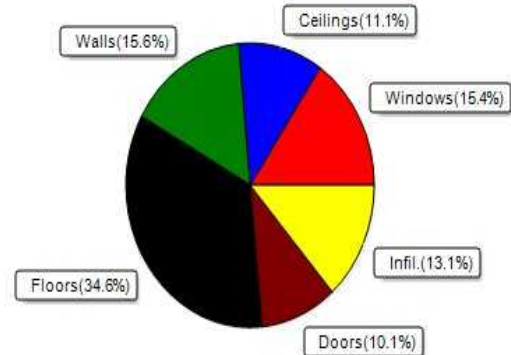
5/13/2026

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	30672	Btuh	Total cooling load calculation	29794	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	156.5	48000	Sensible (SHR = 0.75)	135.3	36000
Heat Pump + Auxiliary(0.0kW)	156.5	48000	Latent	377.1	12000
			Total (Electric Heat Pump)	161.1	48000

WINTER CALCULATIONS

Winter Heating Load (for 2680 sqft)

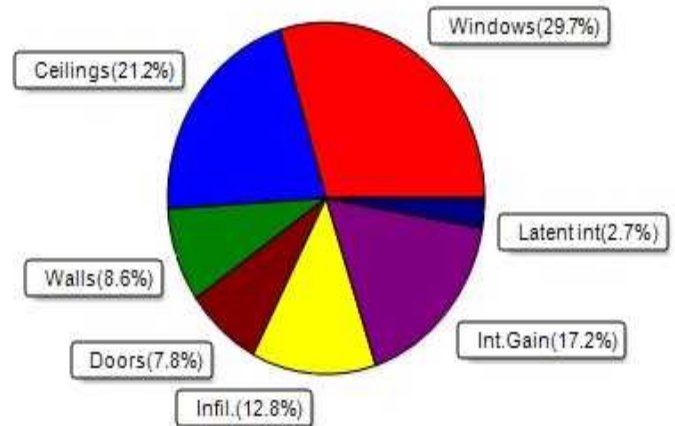
Load component	Load
Window total 538 sqft	4734 Btuh
Wall total 1547 sqft	4783 Btuh
Door total 168 sqft	3091 Btuh
Ceiling total 2680 sqft	3414 Btuh
Floor total 2680 sqft	10620 Btuh
Infiltration 92 cfm	4029 Btuh
Duct loss	0 Btuh
Subtotal	30672 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	30672 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2680 sqft)

Load component	Load
Window total 538 sqft	8863 Btuh
Wall total 1547 sqft	2559 Btuh
Door total 168 sqft	2318 Btuh
Ceiling total 2680 sqft	6316 Btuh
Floor total	0 Btuh
Infiltration 69 cfm	1435 Btuh
Internal gain	5120 Btuh
Duct gain	0 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	26612 Btuh
Latent gain(ducts)	0 Btuh
Latent gain(infiltration)	2382 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	800 Btuh
Total latent gain	3182 Btuh
TOTAL HEAT GAIN	29794 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 5-13-26

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
Anderson Residence

, FL

5/13/2026

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	0.33	0.22	No	No	N	1.3ft.	7.5ft.	72.0	0.0	72.0	11	11	801	Btuh
2	2 NFRC	0.33	0.22	No	No	N	1.3ft.	13.5f	36.0	0.0	36.0	11	11	400	Btuh
3	2 NFRC	0.33	0.22	No	No	N	1.3ft.	13.5f	20.0	0.0	20.0	11	11	222	Btuh
4	2 NFRC	0.33	0.22	No	No	N	1.3ft.	13.5f	46.0	0.0	46.0	11	11	512	Btuh
5	2 NFRC	0.33	0.22	No	No	N	1.3ft.	7.5ft.	72.0	0.0	72.0	11	11	801	Btuh
6	2 NFRC	0.33	0.22	No	No	E	1.3ft.	1.5ft.	24.0	0.0	24.0	11	36	864	Btuh
7	2 NFRC	0.33	0.22	No	No	E	1.3ft.	1.5ft.	36.0	0.0	36.0	11	36	1296	Btuh
8	2 NFRC	0.33	0.22	No	No	S	1.3ft.	7.5ft.	18.0	0.3	17.7	11	14	246	Btuh
9	2 NFRC	0.33	0.22	No	No	S	1.3ft.	7.5ft.	18.0	0.3	17.7	11	14	246	Btuh
10	2 NFRC	0.33	0.22	No	No	S	1.3ft.	7.5ft.	72.0	0.9	71.1	11	14	984	Btuh
11	2 NFRC	0.33	0.22	No	No	S	1.3ft.	7.5ft.	20.0	0.5	19.5	11	14	273	Btuh
12	2 NFRC	0.33	0.22	No	No	S	1.3ft.	7.5ft.	46.0	0.5	45.5	11	14	629	Btuh
13	2 NFRC	0.33	0.22	No	No	S	1.3ft.	1.5ft.	20.0	20.0	0.0	11	14	222	Btuh
14	2 NFRC	0.33	0.22	No	No	W	1.3ft.	1.5ft.	20.0	0.0	20.0	11	36	720	Btuh
15	2 NFRC	0.33	0.22	No	No	W	1.3ft.	1.5ft.	18.0	0.0	18.0	11	36	648	Btuh
Window Total							538 (sqft)					8863		Btuh	
Walls	Type						U-Value	R-Value	Area(sqft)			HTM		Load	
							Cav/Sheath								
	1	Frame - Wood - Ext					0.077	19.0/0.0	121.3			1.65		201	Btuh
	2	Frame - Wood - Ext					0.077	19.0/0.0	40.0			1.65		66	Btuh
	3	Frame - Wood - Ext					0.077	19.0/0.0	43.3			1.65		72	Btuh
	4	Frame - Wood - Ext					0.077	19.0/0.0	40.0			1.65		66	Btuh
	5	Frame - Wood - Ext					0.077	19.0/0.0	121.3			1.65		201	Btuh
	6	Frame - Wood - Ext					0.077	19.0/0.0	359.3			1.65		594	Btuh
	7	Frame - Wood - Ext					0.077	19.0/0.0	310.0			1.65		513	Btuh
	8	Frame - Wood - Ext					0.077	19.0/0.0	80.0			1.65		132	Btuh
	9	Frame - Wood - Ext					0.077	19.0/0.0	43.3			1.65		72	Btuh
	10	Frame - Wood - Ext					0.077	19.0/0.0	255.3			1.65		422	Btuh
	11	Frame - Wood - Ext					0.077	19.0/0.0	63.3			1.65		105	Btuh
	12	Frame - Wood - Ext					0.077	19.0/0.0	70.0			1.65		116	Btuh
Wall Total							1547 (sqft)					2559		Btuh	
Doors	Type						Area (sqft)			HTM		Load			
	1	Insulated - Exterior					48.0			13.8		662	Btuh		
	2	Insulated - Exterior					24.0			13.8		331	Btuh		
	3	Insulated - Exterior					48.0			13.8		662	Btuh		
	4	Insulated - Exterior					48.0			13.8		662	Btuh		
	Door Total							168 (sqft)					2318	Btuh	
Ceilings	Type/Color/Surface					U-Value	R-Value	Area(sqft)			HTM		Load		
	Unvented Attic/DarkShingle					0.032	30.0/0.0	2680.0			2.36		6316	Btuh	
	Ceiling Total							2680 (sqft)					6316	Btuh	
Floors	Type					R-Value			Size			HTM		Load	
	Slab On Grade					0.0			2680 (ft-perimeter)			0.0		0	Btuh
	Floor Total							2680.0 (sqft)					0	Btuh	
	Envelope Subtotal:												20056		Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Anderson Residence
Climate: FL_GAINESVILLE_REGIONAL_A

, FL

5/13/2026

Infiltration	Type Natural	Average ACH 0.15	Volume(cuft) 26800	Wall Ratio 1	CFM= 68.9	Load 1435 Btuh
Internal gain		Occupants 4	Btuh/occupant X 230	Appliance +	4200	Load 5120 Btuh
	Sensible Envelope Load:					26612 Btuh
Duct load	Extremelysealed, Supply(R6.0-Cond), Return(R6.0-Cond) (DGM of 0.000)					0 Btuh
	Sensible Load All Zones					26612 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Anderson Residence

, FL

5/13/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	26612 Btuh
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	26612 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	26612 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2382 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3182 Btuh
	TOTAL GAIN	29794 Btuh

EQUIPMENT

1. Central Unit	#	48000 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

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Project Title:
Anderson Residence
Building Type: User

, FL

5/13/2026

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 0.33	Vinyl	0.22	N	72.0		8.8	634 Btuh
2	2, NFRC 0.33	Vinyl	0.22	N	36.0		8.8	317 Btuh
3	2, NFRC 0.33	Vinyl	0.22	N	20.0		8.8	176 Btuh
4	2, NFRC 0.33	Vinyl	0.22	N	46.0		8.8	405 Btuh
5	2, NFRC 0.33	Vinyl	0.22	N	72.0		8.8	634 Btuh
6	2, NFRC 0.33	Vinyl	0.22	E	24.0		8.8	211 Btuh
7	2, NFRC 0.33	Vinyl	0.22	E	36.0		8.8	317 Btuh
8	2, NFRC 0.33	Vinyl	0.22	S	18.0		8.8	158 Btuh
9	2, NFRC 0.33	Vinyl	0.22	S	18.0		8.8	158 Btuh
10	2, NFRC 0.33	Vinyl	0.22	S	72.0		8.8	634 Btuh
11	2, NFRC 0.33	Vinyl	0.22	S	20.0		8.8	176 Btuh
12	2, NFRC 0.33	Vinyl	0.22	S	46.0		8.8	405 Btuh
13	2, NFRC 0.33	Vinyl	0.22	S	20.0		8.8	176 Btuh
14	2, NFRC 0.33	Vinyl	0.22	W	20.0		8.8	176 Btuh
15	2, NFRC 0.33	Vinyl	0.22	W	18.0		8.8	158 Btuh
Window Total					538.0(sqft)			4734 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	121		3.09	375 Btuh
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	40		3.09	124 Btuh
3	Frame - Wood	- Ext	(0.077)	19.0/0.0	43		3.09	134 Btuh
4	Frame - Wood	- Ext	(0.077)	19.0/0.0	40		3.09	124 Btuh
5	Frame - Wood	- Ext	(0.077)	19.0/0.0	121		3.09	375 Btuh
6	Frame - Wood	- Ext	(0.077)	19.0/0.0	359		3.09	1111 Btuh
7	Frame - Wood	- Ext	(0.077)	19.0/0.0	310		3.09	958 Btuh
8	Frame - Wood	- Ext	(0.077)	19.0/0.0	80		3.09	247 Btuh
9	Frame - Wood	- Ext	(0.077)	19.0/0.0	43		3.09	134 Btuh
10	Frame - Wood	- Ext	(0.077)	19.0/0.0	255		3.09	789 Btuh
11	Frame - Wood	- Ext	(0.077)	19.0/0.0	63		3.09	196 Btuh
12	Frame - Wood	- Ext	(0.077)	19.0/0.0	70		3.09	216 Btuh
Wall Total					1547(sqft)			4783 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		48		18.4	883 Btuh
2	Insulated - Exterior, n		(0.460)		24		18.4	442 Btuh
3	Insulated - Exterior, n		(0.460)		48		18.4	883 Btuh
4	Insulated - Exterior, n		(0.460)		48		18.4	883 Btuh
Door Total					168(sqft)			3091Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.032)	30.0/0.0	2680		1.3	3414 Btuh
Ceiling Total					2680(saft)			3414Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

, FL

Project Title:
Anderson Residence
Building Type: User

5/13/2026

Floors 1	Type Slab On Grade Floor Total	Ueff. (1.180)	R-Value 0.0	Size X 225.0 ft(perim.) 2680 sqft	HTM= 47.2	Load 10620 Btuh 10620 Btuh
	Envelope Subtotal:					26642 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.21	Volume(cuft) 26800	Wall Ratio 1.00	CFM= 91.9	4029 Btuh
Duct load	Extremely sealed, R6.0, Supply(Con), Return(Con) (DLM of 0.000)					0 Btuh
All Zones	Sensible Subtotal All Zones					30672 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss Total Heat Loss	(Ex:0 cfm; Sup:0 cfm)	30672 Btuh 0 Btuh 30672 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	48000 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