

Residential System Sizing Calculation

Summary

Oxley Res
Lake City, FL

Project Title:
260196 Oxley Res

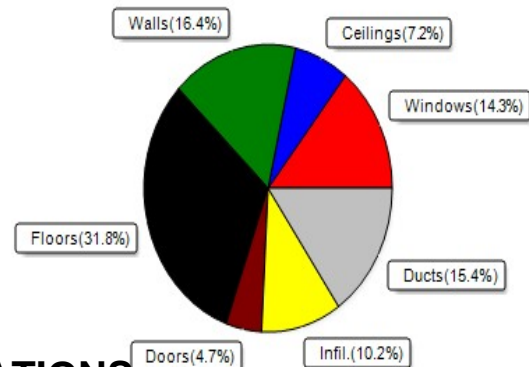
3/8/2026

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	34783	Btuh	Total cooling load calculation	29358	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	109.2	38000	Sensible (SHR = 0.75)	113.4	28500
Heat Pump + Auxiliary(0.0kW)	109.2	38000	Latent	224.5	9500
			Total (Electric Heat Pump)	129.4	38000

WINTER CALCULATIONS

Winter Heating Load (for 2249 sqft)

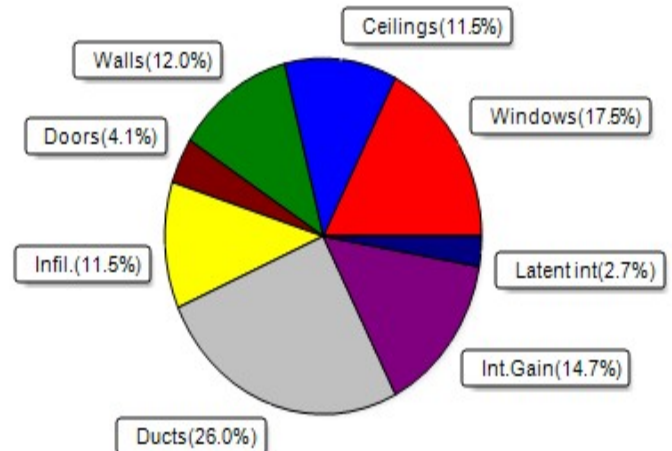
Load component	Load	
Window total	416 sqft	4988 Btuh
Wall total	1609 sqft	5712 Btuh
Door total	101 sqft	1621 Btuh
Ceiling total	2455 sqft	2492 Btuh
Floor total	2249 sqft	11045 Btuh
Infiltration	81 cfm	3564 Btuh
Duct loss		5361 Btuh
Subtotal		34783 Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS		34783 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2249 sqft)

Load component	Load	
Window total	416 sqft	5130 Btuh
Wall total	1609 sqft	3523 Btuh
Door total	101 sqft	1216 Btuh
Ceiling total	2455 sqft	3365 Btuh
Floor total		0 Btuh
Infiltration	61 cfm	1270 Btuh
Internal gain		4320 Btuh
Duct gain		6303 Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load		0 Btuh
Total sensible gain		25126 Btuh
Latent gain(ducts)		1325 Btuh
Latent gain(infiltration)		2107 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		800 Btuh
Total latent gain		4232 Btuh
TOTAL HEAT GAIN		29358 Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: **Evan Beamsley**
DATE: **2026-03-08**

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Oxley Res

Project Title:
260196 Oxley Res
Building Type: User

Lake City, FL

3/8/2026

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	48.0		12.0	576 Btuh
2	2, NFRC 0.22	Vinyl	0.30	N	72.0		12.0	864 Btuh
3	2, NFRC 0.22	Vinyl	0.30	W	32.0		12.0	384 Btuh
4	2, NFRC 0.22	Vinyl	0.30	N	56.0		12.0	672 Btuh
5	2, NFRC 0.22	Vinyl	0.30	W	16.0		12.0	192 Btuh
6	2, NFRC 0.22	Vinyl	0.30	N	48.0		12.0	576 Btuh
7	2, NFRC 0.22	Vinyl	0.30	E	4.0		12.0	48 Btuh
8	2, NFRC 0.22	Vinyl	0.30	E	15.0		12.0	180 Btuh
9	2, NFRC 0.22	Vinyl	0.30	E	10.0		12.0	120 Btuh
10	2, NFRC 0.22	Vinyl	0.30	E	15.0		12.0	180 Btuh
11	2, NFRC 0.22	Vinyl	0.30	S	12.5		12.0	150 Btuh
12	2, NFRC 0.22	Vinyl	0.30	S	5.0		12.0	60 Btuh
13	2, NFRC 0.22	Vinyl	0.30	S	32.0		12.0	384 Btuh
14	2, NFRC 0.22	Vinyl	0.30	S	16.0		12.0	192 Btuh
15	2, NFRC 0.22	Vinyl	0.30	S	12.5		12.0	150 Btuh
16	2, NFRC 0.22	Vinyl	0.30	S	11.7		12.0	140 Btuh
17	2, NFRC 0.22	Vinyl	0.30	W	10.0		12.0	120 Btuh
	Window Total				415.7(sqft)			4988 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	77		3.55	272 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	24		3.55	85 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	23		3.55	80 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	51		3.55	181 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	94		3.55	334 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	90		3.55	320 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	446		3.55	1583 Btuh
8	Frame - Wood	- Adj	(0.089)	13.0/0.0	140		3.55	495 Btuh
9	Frame - Wood	- Adj	(0.089)	13.0/0.0	36		3.55	128 Btuh
10	Frame - Wood	- Adj	(0.089)	13.0/0.0	31		3.55	109 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	73		3.55	257 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	34		3.55	120 Btuh
13	Frame - Wood	- Ext	(0.089)	13.0/0.0	39		3.55	138 Btuh
14	Frame - Wood	- Ext	(0.089)	13.0/0.0	57		3.55	201 Btuh
15	Frame - Wood	- Ext	(0.089)	13.0/0.0	17		3.55	59 Btuh
16	Frame - Wood	- Ext	(0.089)	13.0/0.0	66		3.55	236 Btuh
17	Frame - Wood	- Ext	(0.089)	13.0/0.0	314		3.55	1115 Btuh
	Wall Total				1609(sqft)			5712 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Oxley Res
Lake City, FL

Project Title:
260196 Oxley Res
Building Type: User

3/8/2026

Doors	Type	Storm Ueff.	Area	X	HTM=	Load	
1	Insulated - Exterior,	n (0.400)	24		16.0	384 Btuh	
2	Insulated - Exterior,	n (0.400)	16		16.0	256 Btuh	
3	Insulated - Exterior,	n (0.400)	16		16.0	256 Btuh	
4	Insulated - Exterior,	n (0.400)	5		16.0	85 Btuh	
5	Insulated - Garage,	n (0.400)	24		16.0	384 Btuh	
6	Insulated - Exterior,	n (0.400)	16		16.0	256 Btuh	
	Door Total		101(sqft)			1621Btuh	
Ceilings	Type/Color/Surface	Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing	(0.025)	38.0/0.0	2249		1.0	2283 Btuh
2	Knee wall/D/Shing	(0.025)	38.0/0.0	206		1.0	209 Btuh
	Ceiling Total		2455(sqft)				2492Btuh
Floors	Type	Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	234.0 ft(perim.)		47.2	11045 Btuh
	Floor Total		2249 sqft				11045 Btuh
Envelope Subtotal:							25859 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load	
	Natural	0.23	20916	1.00	81.3	3564 Btuh	
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.182)					5361 Btuh	
All Zones	Sensible Subtotal All Zones					34783 Btuh	

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	34783 Btuh 0 Btuh 34783 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	38000 Btuh
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Manual J Winter Calculations

Residential Load - Component Details (continued)

Oxley Res
Lake City, FL

Project Title:
260196 Oxley Res
Building Type: User

3/8/2026

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

Oxley Res

Project Title:
260196 Oxley Res

Lake City, FL

3/8/2026

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	1.0ft	48.0	48.0	0.0	10	12	496	Btuh	
2	2 NFRC	0.22, 0.30	No	No	N	14.8f	0.0ft	72.0	72.0	0.0	10	12	744	Btuh	
3	2 NFRC	0.22, 0.30	No	No	W	14.7f	0.0ft	32.0	32.0	0.0	10	27	330	Btuh	
4	2 NFRC	0.22, 0.30	No	No	N	14.2f	0.0ft	56.0	56.0	0.0	10	12	578	Btuh	
5	2 NFRC	0.22, 0.30	No	No	W	28.3f	0.0ft	16.0	16.0	0.0	10	27	165	Btuh	
6	2 NFRC	0.22, 0.30	No	No	N	1.3ft	1.0ft	48.0	48.0	0.0	10	12	496	Btuh	
7	2 NFRC	0.22, 0.30	No	No	E	1.3ft	0.5ft	4.0	2.4	1.6	10	27	67	Btuh	
8	2 NFRC	0.22, 0.30	No	No	E	1.3ft	1.0ft	15.0	0.3	14.7	10	27	398	Btuh	
9	2 NFRC	0.22, 0.30	No	No	E	1.3ft	1.0ft	10.0	0.2	9.8	10	27	266	Btuh	
10	2 NFRC	0.22, 0.30	No	No	E	1.3ft	1.0ft	15.0	0.3	14.7	10	27	398	Btuh	
11	2 NFRC	0.22, 0.30	No	No	S	1.3ft	2.3ft	12.5	0.0	12.5	10	10	129	Btuh	
12	2 NFRC	0.22, 0.30	No	No	S	1.3ft	0.3ft	5.0	0.0	5.0	10	10	52	Btuh	
13	2 NFRC	0.22, 0.30	No	No	S	6.5ft	4.0ft	32.0	0.0	32.0	10	10	330	Btuh	
14	2 NFRC	0.22, 0.30	No	No	S	6.5ft	1.0ft	16.0	0.0	16.0	10	10	165	Btuh	
15	2 NFRC	0.22, 0.30	No	No	S	1.3ft	1.0ft	12.5	0.0	12.5	10	10	129	Btuh	
16	2 NFRC	0.22, 0.30	No	No	S	1.3ft	1.0ft	11.7	0.0	11.7	10	10	120	Btuh	
17	2 NFRC	0.22, 0.30	No	No	W	1.3ft	1.0ft	10.0	0.2	9.8	10	27	266	Btuh	
Window Total								416 (sqft)				5130 Btuh			
Walls	Type	U-Value	R-Value	Area(sqft)		HTM		Load							
				Cav/Sheath											
1	Frame - Wood - Ext	0.09	13.0/0.0	76.5		2.3		173 Btuh							
2	Frame - Wood - Ext	0.09	13.0/0.0	24.0		2.3		54 Btuh							
3	Frame - Wood - Ext	0.09	13.0/0.0	22.5		2.3		51 Btuh							
4	Frame - Wood - Ext	0.09	13.0/0.0	51.0		2.3		115 Btuh							
5	Frame - Wood - Ext	0.09	13.0/0.0	94.2		2.3		213 Btuh							
6	Frame - Wood - Ext	0.09	13.0/0.0	90.0		2.3		204 Btuh							
7	Frame - Wood - Ext	0.09	13.0/0.0	445.8		2.3		1009 Btuh							
8	Frame - Wood - Adj	0.09	13.0/0.0	139.5		1.7		235 Btuh							
9	Frame - Wood - Adj	0.09	13.0/0.0	36.0		1.7		61 Btuh							
10	Frame - Wood - Adj	0.09	13.0/0.0	30.8		1.7		52 Btuh							
11	Frame - Wood - Ext	0.09	13.0/0.0	72.5		2.3		164 Btuh							
12	Frame - Wood - Ext	0.09	13.0/0.0	33.9		2.3		77 Btuh							
13	Frame - Wood - Ext	0.09	13.0/0.0	39.0		2.3		88 Btuh							
14	Frame - Wood - Ext	0.09	13.0/0.0	56.5		2.3		128 Btuh							
15	Frame - Wood - Ext	0.09	13.0/0.0	16.5		2.3		37 Btuh							
16	Frame - Wood - Ext	0.09	13.0/0.0	66.3		2.3		150 Btuh							
17	Frame - Wood - Ext	0.09	13.0/0.0	314.0		2.3		711 Btuh							
Wall Total				1609 (sqft)		3523 Btuh									
Doors	Type	Area (sqft)		HTM		Load									
1	Insulated - Exterior	24.0		12.0		288 Btuh									
2	Insulated - Exterior	16.0		12.0		192 Btuh									
3	Insulated - Exterior	16.0		12.0		192 Btuh									
4	Insulated - Exterior	5.3		12.0		64 Btuh									
5	Insulated - Garage	24.0		12.0		288 Btuh									
6	Insulated - Exterior	16.0		12.0		192 Btuh									
Door Total		101 (sqft)		1216 Btuh											

Manual J Summer Calculations

Residential Load - Component Details (continued)

Oxley Res
Lake City, FL

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
260196 Oxley Res

3/8/2026

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
	1 Vented Attic/DarkShingle	0.025	38.0/0.0	2249.0	1.37	3082 Btuh
	2 Knee wall to attic/DarkShingle	0.025	38.0/0.0	206.0	1.37	282 Btuh
	Ceiling Total				2455 (sqft)	
Floors	Type		R-Value	Size	HTM	Load
	1 Slab On Grade		0.0	2249 (ft-perimeter)	0.0	0 Btuh
	Floor Total				2249.0 (sqft)	
Envelope Subtotal:						13234 Btuh
Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.17	20916	1	60.9	1270 Btuh
Internal gain		Occupants	Btuh/occupant	Appliance		Load
		4	X 230	+	3400	4320 Btuh
Sensible Envelope Load:						18823 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.335)	6303 Btuh
	Sensible Load All Zones					

Manual J Summer Calculations

Residential Load - Component Details (continued)

Oxley Res
Lake City, FL

Project Title:
260196 Oxley Res

Climate:FL_GAINESVILLE_REGIONAL_A

3/8/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	18823 Btuh
	Sensible Duct Load	6303 Btuh
	Total Sensible Zone Loads	25126 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	25126 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2107 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1325 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4232 Btuh
	TOTAL GAIN	29358 Btuh

EQUIPMENT

1. Central Unit	#	38000 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