

Residential System Sizing Calculation

Summary

Kyle & Brandi Brownfield
218 SW Jewel Court
Fort White, FL

Project Title:
260577 Brownfield

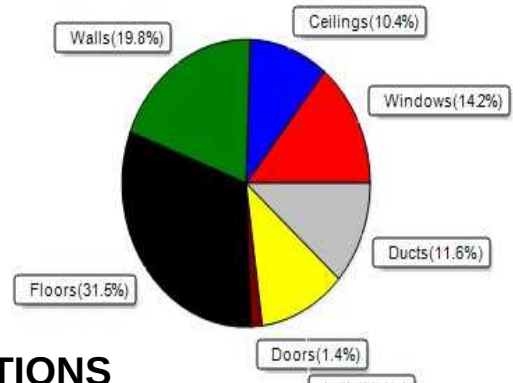
7/7/2026

Location for weather data: Gainesville, FL - Defaults: Latitude(30) Altitude(164 ft.) Temp Range(M)					
Humidity data: Interior RH (50%) Outdoor wet bulb (78F) Humidity difference(47gr.)					
Winter design temperature(MJ8 99%/Cu) 30 F			Summer design temperature(MJ8 99%/Cu)99 F		
Winter setpoint 70 F			Summer setpoint 75 F		
Winter temperature difference 40 F			Summer temperature difference 24 F		
Total heating load calculation 29653 Btuh			Total cooling load calculation 25469 Btuh		
Submitted heating capacity % of calc Btuh			Submitted cooling capacity % of calc Btuh		
Total (Electric Heat Pump) 107.9 32000			Sensible (SHR = 0.75) 110.9 24000		
Heat Pump + Auxiliary(0.0kW) 107.9 32000			Latent 208.8 8000		
			Total (Electric Heat Pump) 125.6 32000		

WINTER CALCULATIONS

Winter Heating Load (for 2215 sqft)

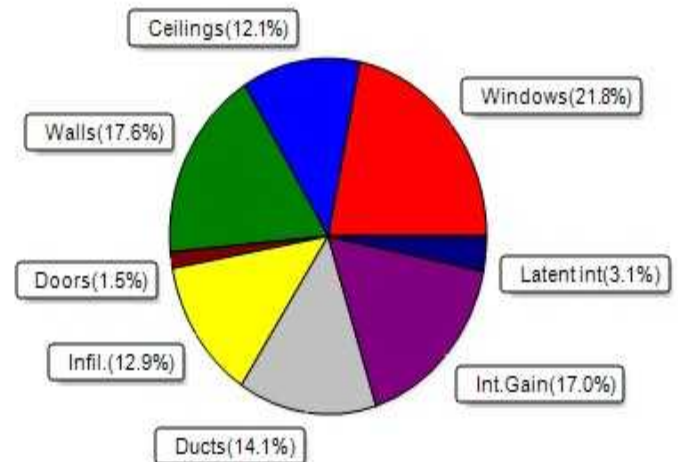
Load component	Load
Window total 328 sqft	4203 Btuh
Wall total 1653 sqft	5869 Btuh
Door total 27 sqft	427 Btuh
Ceiling total 2550 sqft	3073 Btuh
Floor total 2215 sqft	9346 Btuh
Infiltration 75 cfm	3302 Btuh
Duct loss	3434 Btuh
Subtotal	29653 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	29653 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2215 sqft)

Load component	Load
Window total 328 sqft	5549 Btuh
Wall total 1653 sqft	4475 Btuh
Door total 27 sqft	373 Btuh
Ceiling total 2550 sqft	3073 Btuh
Floor total	0 Btuh
Infiltration 57 cfm	1486 Btuh
Internal gain	4320 Btuh
Duct gain	2361 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	21637 Btuh
Latent gain(ducts)	1233 Btuh
Latent gain(infiltration)	1799 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	800 Btuh
Total latent gain	3831 Btuh
TOTAL HEAT GAIN	25469 Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: Evan Beamsley
DATE: 2026-07-07

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Kyle & Brandi Brownfield
218 SW Jewel Court
Fort White, FL

Project Title:
260577 Brownfield
Building Type: User

7/7/2026

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °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 0.22	Vinyl	0.32	N	8.0		12.8	102 Btuh
2	2, NFRC 0.22	Vinyl	0.32	N	9.0		12.8	115 Btuh
3	2, NFRC 0.22	Vinyl	0.32	N	26.7		12.8	341 Btuh
4	2, NFRC 0.22	Vinyl	0.32	N	20.0		12.8	256 Btuh
5	2, NFRC 0.22	Vinyl	0.32	N	36.0		12.8	461 Btuh
6	2, NFRC 0.22	Vinyl	0.32	E	6.0		12.8	77 Btuh
7	2, NFRC 0.22	Vinyl	0.32	S	36.0		12.8	461 Btuh
8	2, NFRC 0.22	Vinyl	0.32	S	72.0		12.8	922 Btuh
9	2, NFRC 0.22	Vinyl	0.32	S	26.7		12.8	341 Btuh
10	2, NFRC 0.22	Vinyl	0.32	S	36.0		12.8	461 Btuh
11	2, NFRC 0.22	Vinyl	0.32	W	36.0		12.8	461 Btuh
12	2, NFRC 0.22	Vinyl	0.32	W	16.0		12.8	205 Btuh
Window Total					328.3(sqft)			4203 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	235		3.55	834 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	174		3.55	618 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	144		3.55	511 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	291		3.55	1033 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	144		3.55	511 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	265		3.55	941 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	117		3.55	415 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	149		3.55	529 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	134		3.55	476 Btuh
Wall Total					1653(sqft)			5869 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.400)		13		16.0	213 Btuh
2	Insulated - Exterior, n		(0.400)		13		16.0	213 Btuh
Door Total					27(sqft)			427Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Metal		(0.241)	0.0/22.0	1255		1.2	1512 Btuh
2	Sloped ce/D/Metal		(0.241)	0.0/22.0	268		1.2	323 Btuh
3	Sloped ce/D/Metal		(0.241)	0.0/22.0	418		1.2	504 Btuh
4	Flat ceil/D/Metal		(0.241)	0.0/22.0	344		1.2	415 Btuh
5	Knee wall/D/Metal		(0.241)	0.0/22.0	265		1.2	319 Btuh
Ceiling Total					2550(sqft)			3073Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	198.0 ft(perim.)		47.2	9346 Btuh
Floor Total					2215 sqft			9346 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Kyle & Brandi Brownfield
218 SW Jewel Court
Fort White, FL

Project Title:
260577 Brownfield
Building Type: User

7/7/2026

	Envelope Subtotal:						22917 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.22	20821	1.00	75.4	3302 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att)					(DLM of 0.131)	3434 Btuh
All Zones	Sensible Subtotal All Zones						29653 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss						29653 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)						0 Btuh
	Total Heat Loss						29653 Btuh

EQUIPMENT

1. Electric Heat Pump	#	32000 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

Kyle & Brandi Brownfield
218 SW Jewel Court
Fort White, FL

Project Title:
260577 Brownfield

7/7/2026

Reference City: Gainesville, FL (Defaults)
Humidity difference: 47gr.

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	0.22, 0.32	No	No	N	30.0f	1.0ft	8.0	8.0	0.0	12	29	98 Btuh		
2	2 NFRC	0.22, 0.32	No	No	N	30.0f	1.0ft	9.0	9.0	0.0	12	29	111 Btuh		
3	2 NFRC	0.22, 0.32	No	No	N	13.3f	1.0ft	26.7	26.7	0.0	12	29	328 Btuh		
4	2 NFRC	0.22, 0.32	No	No	N	13.3f	1.0ft	20.0	20.0	0.0	12	29	246 Btuh		
5	2 NFRC	0.22, 0.32	No	No	N	13.3f	1.0ft	36.0	36.0	0.0	12	29	443 Btuh		
6	2 NFRC	0.22, 0.32	No	No	E	1.3ft	15.0f	6.0	0.0	6.0	12	12	74 Btuh		
7	2 NFRC	0.22, 0.32	No	No	S	9.3ft	1.0ft	36.0	36.0	0.0	12	29	443 Btuh		
8	2 NFRC	0.22, 0.32	No	No	S	9.3ft	5.0ft	72.0	33.0	39.0	12	29	1532 Btuh		
9	2 NFRC	0.22, 0.32	No	No	S	9.3ft	9.3ft	26.7	0.0	26.7	12	29	770 Btuh		
10	2 NFRC	0.22, 0.32	No	No	S	9.3ft	1.0ft	36.0	36.0	0.0	12	29	443 Btuh		
11	2 NFRC	0.22, 0.32	No	No	W	1.3ft	10.0f	36.0	0.0	36.0	12	14	507 Btuh		
12	2 NFRC	0.22, 0.32	No	No	W	1.3ft	11.0f	16.0	0.0	16.0	12	14	226 Btuh		
Excursion													329 Btuh		
Window Total								328 (sqft)					5549 Btuh		
Walls	Type					U-Value		R-Value		Area(sqft)		HTM		Load	
								Cav/Sheath							
	1	Frame - Wood - Ext					0.09		13.0/0.0		235.0		2.7		636 Btuh
	2	Frame - Wood - Ext					0.09		13.0/0.0		174.0		2.7		471 Btuh
	3	Frame - Wood - Ext					0.09		13.0/0.0		144.0		2.7		390 Btuh
	4	Frame - Wood - Ext					0.09		13.0/0.0		291.0		2.7		788 Btuh
	5	Frame - Wood - Ext					0.09		13.0/0.0		144.0		2.7		390 Btuh
	6	Frame - Wood - Ext					0.09		13.0/0.0		265.0		2.7		717 Btuh
	7	Frame - Wood - Ext					0.09		13.0/0.0		117.0		2.7		317 Btuh
	8	Frame - Wood - Ext					0.09		13.0/0.0		149.1		2.7		404 Btuh
9	Frame - Wood - Ext					0.09		13.0/0.0		134.0		2.7	363 Btuh		
Wall Total								1653 (sqft)					4475 Btuh		
Doors	Type					Area (sqft)					HTM		Load		
	1	Insulated - Exterior					13.3					14.0		187 Btuh	
	2	Insulated - Exterior					13.3					14.0		187 Btuh	
	Door Total					27 (sqft)								373 Btuh	
Ceilings	Type/Color/Surface					U-Value		R-Value		Area(sqft)		HTM		Load	
	1	Unvented Attic/DarkMetal					0.241		0.0/22.0		1255.0		1.20		1512 Btuh
	2	Unvented Attic/DarkMetal					0.241		0.0/22.0		268.0		1.20		323 Btuh
	3	Unvented Attic/DarkMetal					0.241		0.0/22.0		418.0		1.20		504 Btuh
	4	Unvented Attic/DarkMetal					0.241		0.0/22.0		344.0		1.20		415 Btuh
	5	Knee wall to attic/DarkMetal					0.241		0.0/22.0		265.0		1.20		319 Btuh
	Ceiling Total								2550 (sqft)						3073 Btuh
Floors	Type					R-Value			Size		HTM		Load		
	1	Slab On Grade					0.0			2215 (ft-perimeter)		0.0		0 Btuh	
	Floor Total									2215.0 (sqft)				0 Btuh	
	Envelope Subtotal:												13470 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kyle & Brandi Brownfield
218 SW Jewel Court
Fort White, FL

Project Title:
260577 Brownfield

Climate:FL_GAINESVILLE_REGIONAL_A

7/7/2026

Infiltration	Type Natural	Average ACH 0.16	Volume(cuft) 20821	Wall Ratio 1	CFM= 56.6	Load 1486 Btuh
Internal gain		Occupants 4	Btuh/occupant X 230	Appliance +	3400	Load 4320 Btuh
	Sensible Envelope Load:					19276 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.122)					2361 Btuh
	Sensible Load All Zones					21637 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kyle & Brandi Brownfield
218 SW Jewel Court
Fort White, FL

Project Title:
260577 Brownfield

Climate:FL_GAINESVILLE_REGIONAL_A

7/7/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	19276 Btuh
	Sensible Duct Load	2361 Btuh
	Total Sensible Zone Loads	21637 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	21637 Btuh
	Latent infiltration gain (for 47 gr. humidity difference)	1799 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1233 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3831 Btuh
	TOTAL GAIN	25469 Btuh

EQUIPMENT

1. Central Unit	#	32000 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