

Residential System Sizing Calculation

Summary

Paul & Kedra Moreau
128 Boston Terr
Fort White, FL 32038

Project Title:
260117 Moreau Cabin

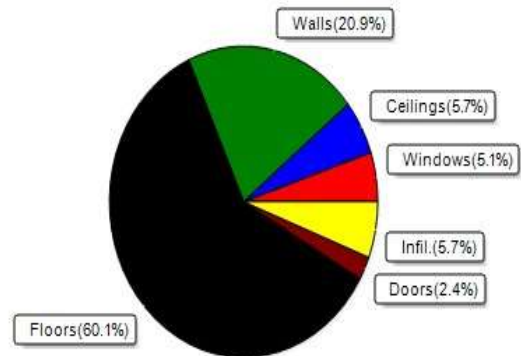
2/13/2026

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	13127 Btuh	Total cooling load calculation	10440 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	205.7 27000	Sensible (SHR = 0.75)	211.0 20250
Heat Pump + Auxiliary(0.0kW)	205.7 27000	Latent	800.6 6750
		Total (Electric Heat Pump)	258.6 27000

WINTER CALCULATIONS

Winter Heating Load (for 584 sqft)

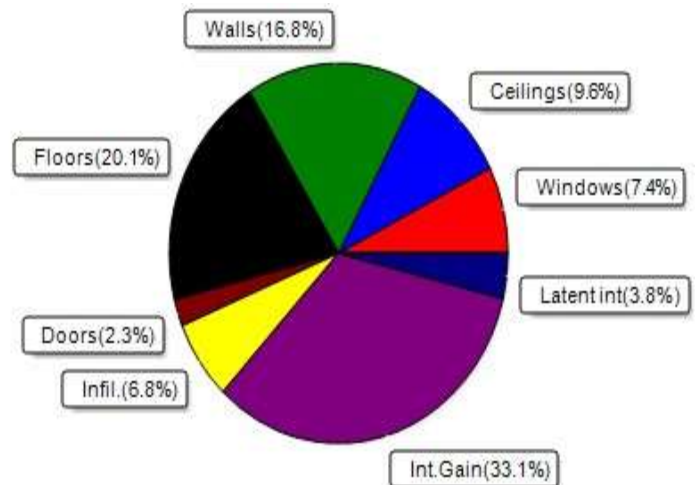
Load component		Load	
Window total	48 sqft	676	Btuh
Wall total	774 sqft	2749	Btuh
Door total	20 sqft	320	Btuh
Ceiling total	584 sqft	744	Btuh
Floor total	See detail report	7888	Btuh
Infiltration	17 cfm	750	Btuh
Duct loss		0	Btuh
Subtotal		13127	Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm	0	Btuh
TOTAL HEAT LOSS		13127	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 584 sqft)

Load component		Load	
Window total	48 sqft	773	Btuh
Wall total	774 sqft	1753	Btuh
Door total	20 sqft	240	Btuh
Ceiling total	584 sqft	1004	Btuh
Floor total		2100	Btuh
Infiltration	13 cfm	267	Btuh
Internal gain		3460	Btuh
Duct gain		0	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		9597	Btuh
Latent gain(ducts)		0	Btuh
Latent gain(infiltration)		443	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		400	Btuh
Total latent gain		843	Btuh
TOTAL HEAT GAIN		10440	Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: Evan Beamsley
DATE: 2026-02-13

System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

Paul & Kedra Moreau
128 Boston Terr
Fort White, FL 32038

Project Title:
260117 Moreau Cabin
Building Type: User

2/13/2026

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)
Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Room #1: Bathroom									
Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load	
4	2, NFRC 0.25	Vinyl	0.35	W	6.3		14.0	88 Btuh	
	Window Total						6.3(sqft)		88 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load	
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	69		3.55	246 Btuh	
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	69		3.55	246 Btuh	
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	123		3.55	437 Btuh	
	Wall Total						262(sqft)		929 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load	
1	Flat ceil/D/Shing		(0.032)	30.0/0.0	140		1.3	178 Btuh	
	Ceiling Total						140(sqft)		178Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load	
1	Raised - Open		(0.385)	0.0	140.0 sqft		15.4	2154 Btuh	
	Floor Total						140 sqft		2154 Btuh
Room Envelope Subtotal:								3349 Btuh	
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio		CFM=	Load	
	Natural		0.22	1120	0.34		5.8	253 Btuh	
Duct load	No ducts assigned to this zone. (DLM of 0.000)							0 Btuh	
Room #1	Sensible Room Subtotal							3602 Btuh	

Component Loads for Room #2: Living Room									
Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load	
3	2, NFRC 0.25	Vinyl	0.35	S	12.0		14.0	168 Btuh	
	Window Total						12.0(sqft)		168 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load	
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	124		3.55	440 Btuh	
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	97		3.55	346 Btuh	
	Wall Total						221(sqft)		786 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load	
1	Insulated - Exterior,	n	(0.400)		20		16.0	320 Btuh	
	Door Total						20(sqft)		320Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

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Ceilings 2	Type/Color/Surface Flat ceil/D/Shing Ceiling Total	Ueff. (0.032)	R-Value 30.0/0.0	Area X 250 250(sqft)	HTM= 1.3	Load 318 Btuh 318Btuh
Floors 2	Type Raised - Open Floor Total	Ueff. (0.385)	R-Value 0.0	Size X 250.0 sqft 250 sqft	HTM= 15.4	Load 3846 Btuh 3846 Btuh
Room Envelope Subtotal:						5439 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.22	Room Volume 2000	Wall Ratio 0.29	CFM= 4.9	214 Btuh
Duct load	No ducts assigned to this zone. (DLM of 0.000)					0 Btuh
Room #2	Sensible Room Subtotal					5653 Btuh

Component Loads for Room #3: Bedroom

Window 1 2	Panes/Type 2, NFRC 0.25 2, NFRC 0.25 Window Total	Frame U Vinyl 0.35 Vinyl 0.35	Orientation N S	Area(sqft) X 15.0 15.0 30.0(sqft)	HTM= 14.0 14.0	Load 210 Btuh 210 Btuh 420 Btuh
Walls 3 4 5	Type Frame - Wood Frame - Wood Frame - Wood Wall Total	Ornt. Ueff. - Ext (0.089) - Ext (0.089) - Ext (0.089)	R-Value (Cav/Sh) 13.0/0.0 13.0/0.0 13.0/0.0	Area X 81 129 81 291(sqft)	HTM= 3.55 3.55 3.55	Load 288 Btuh 459 Btuh 288 Btuh 1034 Btuh
Ceilings 3	Type/Color/Surface Flat ceil/D/Shing Ceiling Total	Ueff. (0.032)	R-Value 30.0/0.0	Area X 194 194(sqft)	HTM= 1.3	Load 247 Btuh 247Btuh
Floors 3	Type Slab On Grade Floor Total	Ueff. (1.180)	R-Value 0.0	Size X 40.0 ft(perim.) 194 sqft	HTM= 47.2	Load 1888 Btuh 1888 Btuh
Room Envelope Subtotal:						3589 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.22	Room Volume 1552	Wall Ratio 0.38	CFM= 6.4	282 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

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Duct load	No ducts assigned to this zone. (DLM of 0.000)	0 Btuh
Room #3	Sensible Room Subtotal	3871 Btuh

SYSTEM GROUPS (BLOCK LOADS)

Heating Loads For System(s):1 Block #1:Block1 Serving Rooms: 1	Block load	3602 Btuh
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Heating Loads For System(s):2 Block #2:Block2 Serving Rooms: 2	Block load	5653 Btuh
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Heating Loads For System(s):3 Block #3:Block3 Serving Rooms: 3	Block load	3871 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	13127 Btuh 0 Btuh 13127 Btuh
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Manual J Winter Calculations

Residential Load - Component Details (continued)

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EQUIPMENT

1. Electric Heat Pump	#	9000 Btuh
2. Electric Heat Pump	#	9000 Btuh
3. Electric Heat Pump	#	9000 Btuh

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 - Room by Room Component Details

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Project Title:
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2/13/2026

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 Room #1: Bathroom

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
4	2 NFRC	0.25	0.35	No	No	W	1.0ft	4.0ft	6.3	0.0	6.3	12	31	192 Btuh
	Window Total								6 (sqft)					192 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load				
				Cav/Sheath										
1	Frame - Wood - Ext	0.09		13.0/0.0		69.3		2.3		157 Btuh				
7	Frame - Wood - Ext	0.09		13.0/0.0		69.3		2.3		157 Btuh				
8	Frame - Wood - Ext	0.09		13.0/0.0		123.1		2.3		279 Btuh				
	Wall Total								262 (sqft)		592 Btuh			
Ceilings	Type/Color/Surface	U-Value		R-Value		Area(sqft)		HTM		Load				
1	Vented Attic/DarkShingle	0.032		30.0/0.0		140.0		1.72		241 Btuh				
	Ceiling Total								140 (sqft)		241 Btuh			
Floors	Type	R-Value		Size		HTM		Load						
1	Raised - Open	0.0		140 (sqft)		5.4		754 Btuh						
	Floor Total								140.0 (sqft)		754 Btuh			
Zone Envelope Subtotal:											1779 Btuh			
Infiltration	Type	Wholehouse ACH		Volume(cuft)		Wall Ratio		CFM=		Load				
	Natural	0.16		1120		0.34		4.3		90 Btuh				
Internal gain	Occupants	Btuh/occupant		Appliance		Load								
	0	X 230 +		0		0 Btuh								
Sensible Envelope Load:											1870 Btuh			
Duct load	No duct systemNo ducts assigned to this zone. (DGM of 0.000)										0 Btuh			
Sensible Zone Load											1870 Btuh			

Component Loads for Room #2: Living Room

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
3	2 NFRC	0.25	0.35	No	No	S	7.0ft	0.0ft	12.0	0.0	12.0	12	12	143 Btuh
	Window Total								12 (sqft)					143 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load				
				Cav/Sheath										
2	Frame - Wood - Ext	0.09		13.0/0.0		124.0		2.3		281 Btuh				
6	Frame - Wood - Ext	0.09		13.0/0.0		97.3		2.3		220 Btuh				
	Wall Total								221 (sqft)		501 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

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Doors 1	Type			Area (sqft)	HTM	Load
	Insulated - Exterior			20.0	12.0	240 Btuh
	Door Total			20 (sqft)		240 Btuh
Ceilings 2	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
	Vented Attic/DarkShingle	0.032	30.0/0.0	250.0	1.72	430 Btuh
	Ceiling Total			250 (sqft)		430 Btuh
Floors 2	Type	R-Value		Size	HTM	Load
	Raised - Open	0.0		250 (sqft)	5.4	1346 Btuh
	Floor Total			250.0 (sqft)		1346 Btuh
Zone Envelope Subtotal:						2660 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.16	2000	0.29	3.7	76 Btuh
Internal gain	Occupants		Btuh/occupant	Appliance		Load
	1		X 230	+ 2100		2330 Btuh
Sensible Envelope Load:						5066 Btuh
Duct load	No duct system No ducts assigned to this zone. (DGM of 0.000)					0 Btuh
Sensible Zone Load						5066 Btuh

Component Loads for Room #3: Bedroom

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	0.35	No	No	N	1.5ft	1.5ft	15.0	15.0	0.0	12	14	179 Btuh
2	2 NFRC	0.25	0.35	No	No	S	0.5ft	1.5ft	15.0	0.0	15.0	12	12	179 Btuh
Window Total									30 (sqft)					357 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load				
				Cav/Sheath										
	3	Frame - Wood - Ext	0.09	13.0/0.0		81.0		2.3		183 Btuh				
	4	Frame - Wood - Ext	0.09	13.0/0.0		129.3		2.3		293 Btuh				
	5	Frame - Wood - Ext	0.09	13.0/0.0		81.0		2.3		183 Btuh				
Wall Total									291 (sqft)		659 Btuh			
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)		HTM		Load						
	Vented Attic/DarkShingle	0.032	30.0/0.0	194.0		1.72		334 Btuh						
	Ceiling Total			194 (sqft)				334 Btuh						
Floors	Type	R-Value		Size		HTM		Load						
	Slab On Grade	0.0		194 (ft-perimeter)		0.0		0 Btuh						
	Floor Total			194.0 (sqft)				0 Btuh						
Zone Envelope Subtotal:									1350 Btuh					

Manual J Summer Calculations

Residential Load - Component Details (continued)

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2/13/2026

Infiltration	Type Natural	Wholehouse ACH 0.16	Volume(cuft) 1552	Wall Ratio 0.38	CFM= 4.8	Load 100 Btuh
Internal gain		Occupants 1	Btuh/occupant X 230	+	Appliance 900	Load 1130 Btuh
	Sensible Envelope Load:					2581 Btuh
Duct load	No duct systemNo ducts assigned to this zone. (DGM of 0.000)					0 Btuh
	Sensible Zone Load					2581 Btuh

The following window Excursion will be assigned to the system loads.

Windows	July excursion for System 1	81 Btuh
	July excursion for System 2	0 Btuh
	July excursion for System 3	0 Btuh
	Excursion Subtotal:	81 Btuh
Duct load		0 Btuh
	Sensible Excursion Load	81 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

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2/13/2026

SYSTEM GROUPS (BLOCK LOADS)

Cooling Loads For System(s): 1 Block #1:Block1 Serving Zones: 1	Sensible Envelope Load Window Excursion	1870 Btuh 81 Btuh
	Sensible Duct Load (duct gain multiplier of 0.000) (Includes 0 Btuh due to window excursion)	0 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Zone Sensible gain	1950 Btuh
	Latent infiltration/ventilation gain	150 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain	0 Btuh
	Latent other gain	0 Btuh
	Total block load	2100 Btuh

Cooling Loads For System(s): 2 Block #2:Block2 Serving Zones: 2	Sensible Envelope Load Window Excursion	5066 Btuh 0 Btuh
	Sensible Duct Load (duct gain multiplier of 0.000)	0 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Zone Sensible gain	5066 Btuh
	Latent infiltration/ventilation gain	127 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain	200 Btuh
	Latent other gain	0 Btuh
	Total block load	5393 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

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2/13/2026

SYSTEM GROUPS (BLOCK LOADS)

Cooling Loads For System(s): 3 Block #3:Block3 Serving Zones: 3	Sensible Envelope Load	2581 Btuh
	Window Excursion	0 Btuh
	Sensible Duct Load (duct gain multiplier of 0.000)	0 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Zone Sensible gain	2581 Btuh
	Latent infiltration/ventilation gain	167 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain	200 Btuh
	Latent other gain	0 Btuh
	Total block load	2947 Btuh

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	9597 Btuh
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	9597 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	9597 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	443 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (2.0 people @ 200 Btuh per person)	400 Btuh
	Latent other gain	0 Btuh
	Latent total gain	843 Btuh
TOTAL GAIN	10440 Btuh	

EQUIPMENT

1. Central Unit	#	9000 Btuh
2. Central Unit	#	9000 Btuh
3. Central Unit	#	9000 Btuh

Manual J Summer Calculations

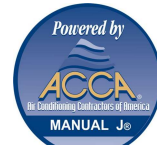
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*Key: Window types (Panels - Number and type of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value)
(U - Window U-Factor)
(InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
- For Blinds: 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