

Residential System Sizing Calculation

Summary

Hunter & Mady Mabile

Project Title:
260052 Mabile Res

Lake City, FL

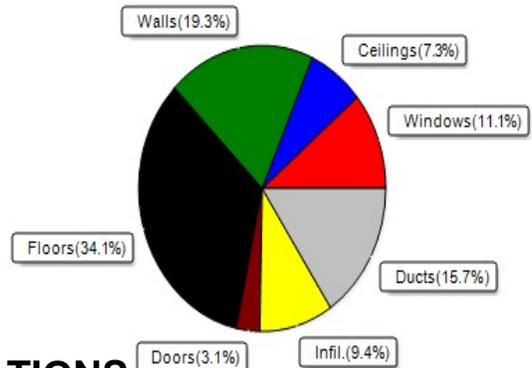
1/20/2026

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	24346	Btuh	Total cooling load calculation	23557	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	106.8	26000	Sensible (SHR = 0.75)	95.6	19500
Heat Pump + Auxiliary(0.0kW)	106.8	26000	Latent	206.0	6500
			Total (Electric Heat Pump)	110.4	26000

WINTER CALCULATIONS

Winter Heating Load (for 1617 sqft)

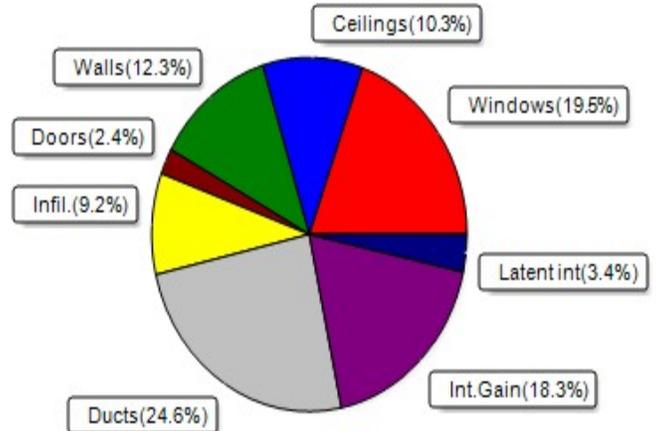
Load component	Load	
Window total	210 sqft	2692 Btuh
Wall total	1321 sqft	4690 Btuh
Door total	47 sqft	747 Btuh
Ceiling total	1762 sqft	1789 Btuh
Floor total	1617 sqft	8307 Btuh
Infiltration	52 cfm	2296 Btuh
Duct loss		3825 Btuh
Subtotal		24346 Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS		24346 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1617 sqft)

Load component	Load	
Window total	210 sqft	4602 Btuh
Wall total	1321 sqft	2887 Btuh
Door total	47 sqft	560 Btuh
Ceiling total	1762 sqft	2415 Btuh
Floor total		0 Btuh
Infiltration	39 cfm	818 Btuh
Internal gain		4320 Btuh
Duct gain		4800 Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load		0 Btuh
Total sensible gain		20402 Btuh
Latent gain(ducts)		997 Btuh
Latent gain(infiltration)		1357 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		800 Btuh
Total latent gain		3155 Btuh
TOTAL HEAT GAIN		23557 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Hunter & Mady Mobile

Project Title:
260052 Mobile Res
Building Type: User

Lake City, FL

1/20/2026

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)

Winter Setpoint: 70 °F (Required Manual J default)

This calculation is for Worst Case. The house has been rotated 45 degrees.

Component Loads for Whole House								
Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.22	Vinyl	0.32	NE	30.0		12.8	384 Btuh
2	2, NFRC 0.22	Vinyl	0.32	NE	60.0		12.8	768 Btuh
3	2, NFRC 0.22	Vinyl	0.32	NE	13.3		12.8	171 Btuh
4	2, NFRC 0.22	Vinyl	0.32	NE	15.0		12.8	192 Btuh
5	2, NFRC 0.22	Vinyl	0.32	SE	6.0		12.8	77 Btuh
6	2, NFRC 0.22	Vinyl	0.32	SW	30.0		12.8	384 Btuh
7	2, NFRC 0.22	Vinyl	0.32	SW	30.0		12.8	384 Btuh
8	2, NFRC 0.22	Vinyl	0.32	NW	6.0		12.8	77 Btuh
9	2, NFRC 0.22	Vinyl	0.32	NW	20.0		12.8	256 Btuh
	Window Total				210.3(sqft)			2692 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	84		3.55	298 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	57		3.55	202 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	187		3.55	664 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	72		3.55	256 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	255		3.55	905 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	93		3.55	330 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	43		3.55	153 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	57		3.55	202 Btuh
9	Frame - Wood	- Adj	(0.089)	13.0/0.0	178		3.55	632 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	295		3.55	1047 Btuh
	Wall Total				1321(sqft)			4690 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)		20		16.0	320 Btuh
3	Insulated - Garage,	n	(0.400)		20		16.0	320 Btuh
	Door Total				47(sqft)			747Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	1145		1.0	1162 Btuh
2	Knee wall/D/Shing		(0.025)	38.0/0.0	119		1.0	121 Btuh
3	Sloped ce/D/Shing		(0.025)	38.0/0.0	498		1.0	506 Btuh
	Ceiling Total				1762(sqft)			1789Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	176.0 ft(perim.)		47.2	8307 Btuh
	Floor Total				1617 sqft			8307 Btuh
								Envelope Subtotal:
								18225 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Hunter & Mady Mobile

Project Title:
260052 Mobile Res
Building Type: User

Lake City, FL

1/20/2026

Infiltration	Type Natural	Wholehouse ACH 0.20	Volume(cuft) 15523	Wall Ratio 1.00	CFM= 52.3	2296 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att)				(DLM of 0.186)	3825 Btuh
All Zones	Sensible Subtotal All Zones					24346 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	24346 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	24346 Btuh

EQUIPMENT

1. Electric Heat Pump	#	26000 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

Hunter & Mady Mobile

Project Title:
260052 Mobile Res

Lake City, FL

1/20/2026

Reference City: Gainesville, FL (Defaults)

Temperature Difference: 19.0F(TMY3 99%)

Humidity difference: 51gr.

Summer Setpoint: 75 °F (Required Manual J default)

This calculation is for Worst Case. The house has been rotated 45 degrees.

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	NE	1.5ft	1.5ft	30.0	0.0	30.0	11	21	626 Btuh
2	2 NFRC	0.22, 0.32	No	No	NE	13.5f	0.5ft	60.0	0.0	60.0	11	21	1252 Btuh
3	2 NFRC	0.22, 0.32	No	No	NE	13.5f	0.5ft	13.3	0.0	13.3	11	21	278 Btuh
4	2 NFRC	0.22, 0.32	No	No	NE	1.5ft	1.5ft	15.0	0.0	15.0	11	21	313 Btuh
5	2 NFRC	0.22, 0.32	No	No	SE	1.5ft	1.5ft	6.0	3.9	2.1	11	22	88 Btuh
6	2 NFRC	0.22, 0.32	No	No	SW	1.5ft	6.0ft	30.0	0.0	30.0	11	22	655 Btuh
7	2 NFRC	0.22, 0.32	No	No	SW	1.5ft	1.5ft	30.0	5.8	24.2	11	22	591 Btuh
8	2 NFRC	0.22, 0.32	No	No	NW	1.5ft	1.5ft	6.0	0.0	6.0	11	21	125 Btuh
9	2 NFRC	0.22, 0.32	No	No	NW	1.5ft	1.5ft	20.0	0.0	20.0	11	21	417 Btuh
	Excursion												257 Btuh
	Window Total							210 (sqft)					4602 Btuh
Walls	Type	U-Value	R-Value	Area(sqft)		HTM		Load					
			Cav/Sheath										
1	Frame - Wood - Ext	0.09	13.0/0.0	84.0	2.3	190 Btuh							
2	Frame - Wood - Ext	0.09	13.0/0.0	57.0	2.3	129 Btuh							
3	Frame - Wood - Ext	0.09	13.0/0.0	187.0	2.3	423 Btuh							
4	Frame - Wood - Ext	0.09	13.0/0.0	72.0	2.3	163 Btuh							
5	Frame - Wood - Ext	0.09	13.0/0.0	255.0	2.3	577 Btuh							
6	Frame - Wood - Ext	0.09	13.0/0.0	93.0	2.3	210 Btuh							
7	Frame - Wood - Ext	0.09	13.0/0.0	43.0	2.3	97 Btuh							
8	Frame - Wood - Ext	0.09	13.0/0.0	57.0	2.3	129 Btuh							
9	Frame - Wood - Adj	0.09	13.0/0.0	178.0	1.7	300 Btuh							
10	Frame - Wood - Ext	0.09	13.0/0.0	295.0	2.3	668 Btuh							
	Wall Total			1321 (sqft)		2887 Btuh							
Doors	Type	Area (sqft)	HTM		Load								
1	Insulated - Exterior	6.7	12.0		80 Btuh								
2	Insulated - Exterior	20.0	12.0		240 Btuh								
3	Insulated - Garage	20.0	12.0		240 Btuh								
	Door Total		47 (sqft)		560 Btuh								
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load							
1	Vented Attic/DarkShingle	0.025	38.0/0.0	1145.0	1.37	1569 Btuh							
2	Knee wall to attic/DarkShingle	0.025	38.0/0.0	119.0	1.37	163 Btuh							
3	Vented Attic/DarkShingle	0.025	38.0/0.0	498.0	1.37	683 Btuh							
	Ceiling Total			1762 (sqft)		2415 Btuh							
Floors	Type	R-Value	Size	HTM		Load							
1	Slab On Grade	0.0	1617 (ft-perimeter)	0.0		0 Btuh							
	Floor Total		1617.0 (sqft)		0 Btuh								
Envelope Subtotal:					10464 Btuh								

Manual J Summer Calculations

Residential Load - Component Details (continued)

Hunter & Mady Mabile

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
260052 Mabile Res

Lake City, FL

1/20/2026

Infiltration	Type Natural	Average ACH 0.15	Volume(cuft) 15523	Wall Ratio 1	CFM= 39.3	Load 818 Btuh
Internal gain		Occupants 4	Btuh/occupant X 230	Appliance +	3400	Load 4320 Btuh
	Sensible Envelope Load:					15602 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.308)					4800 Btuh
	Sensible Load All Zones					20402 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Hunter & Mady Mabile

Project Title: 260052 Mabile Res

Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

1/20/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	15602 Btuh
	Sensible Duct Load	4800 Btuh
	Total Sensible Zone Loads	20402 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	20402 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1357 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	997 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3155 Btuh
	TOTAL GAIN	23557 Btuh

EQUIPMENT

1. Central Unit	#	26000 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