

Residential System Sizing Calculation

Summary

Project Title:
Easom - ADU

, FL

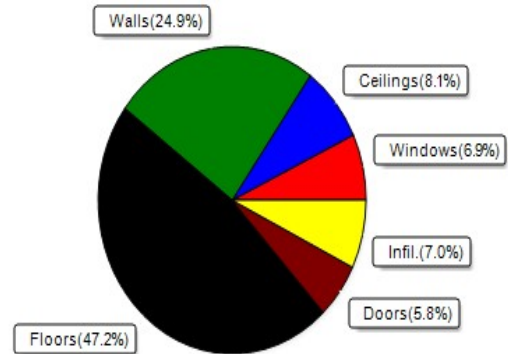
6/26/2025

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	12594	Btuh	Total cooling load calculation	9175	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	190.6	24000	Sensible (SHR = 0.75)	212.9	18000
Heat Pump + Auxiliary(0.0kW)	190.6	24000	Latent	833.0	6000
			Total (Electric Heat Pump)	261.6	24000

WINTER CALCULATIONS

Winter Heating Load (for 800 sqft)

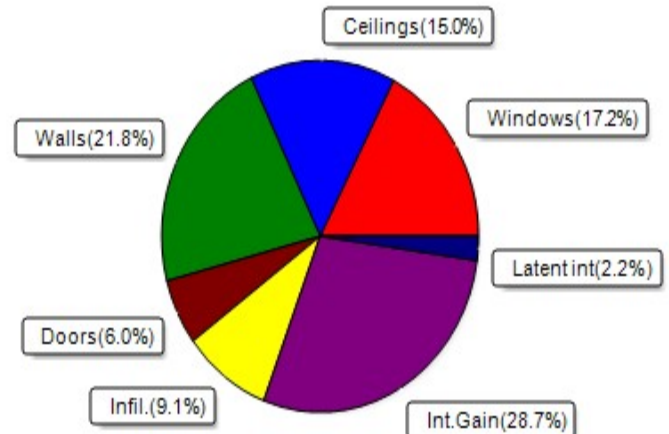
Load component	Load
Window total 84 sqft	874 Btuh
Wall total 884 sqft	3138 Btuh
Door total 40 sqft	736 Btuh
Ceiling total 800 sqft	1019 Btuh
Floor total 800 sqft	5947 Btuh
Infiltration 20 cfm	880 Btuh
Duct loss	0 Btuh
Subtotal	12594 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	12594 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 800 sqft)

Load component	Load
Window total 84 sqft	1582 Btuh
Wall total 884 sqft	2001 Btuh
Door total 40 sqft	552 Btuh
Ceiling total 800 sqft	1376 Btuh
Floor total	0 Btuh
Infiltration 15 cfm	314 Btuh
Internal gain	2630 Btuh
Duct gain	0 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	8454 Btuh
Latent gain(ducts)	0 Btuh
Latent gain(infiltration)	520 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	200 Btuh
Total latent gain	720 Btuh
TOTAL HEAT GAIN	9175 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 6-25-25

Project Name: Easom - ADU Street: City, State, Zip: , FL, Owner: Design Location: FL, Gainesville	Builder Name: Permit Office: Permit Number: Jurisdiction: County: columbia(Florida Climate Zone 2)
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1. New construction or existing New (From Plans) 2. Single family or multiple family Detached 3. Number of units, if multiple family 1 4. Number of Bedrooms 1 5. Is this a worst case? No 6. Conditioned floor area above grade (ft²) 800 Conditioned floor area below grade (ft²) 0 7. Windows(84.0 sqft.) Description Area a. U-Factor: Dbl, U=0.26 84.00 ft² SHGC: SHGC=0.20 b. U-Factor: N/A ft² SHGC: c. U-Factor: N/A ft² SHGC: Area Weighted Average Overhang Depth: 1.500 ft Area Weighted Average SHGC: 0.200 8. Skylights Description Area U-Factor:(AVG) N/A N/A ft² SHGC(AVG): N/A 9. Floor Types Insulation Area a. Slab-On-Grade Edge Insulation R= 0.0 800.00 ft² b. N/A R= c. N/A R=	10. Wall Types(1008.0 sqft.) Insulation Area a. Frame - Wood, Exterior R=13.0 1008.00 ft² b. N/A c. N/A d. N/A 11. Ceiling Types(800.0 sqft.) Insulation Area a. Flat ceiling under att (Vented) R=30.0 800.00 ft² b. N/A c. N/A 12. Roof(Comp. Shingles, Vented) Deck R=0.0 894 ft² 13. Ducts, location & insulation level R ft² a. b. c. 14. Cooling Systems kBtu/hr Efficiency a. PTAC and Room Unit 24.0 EER:21.00 15. Heating Systems kBtu/hr Efficiency a. Electric Heat Pump 24.0 HSPF:8.00 16. Hot Water Systems Cap: 50 gallons a. Electric EF: 0.920 b. Conservation features None 17. Credits CF, Pstat
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Glass/Floor Area: 0.105	Total Proposed Modified Loads: 21.55	
	Total Baseline Loads: 28.23	
NOTE: Proposed residence must have annual total normalized Modified Loads that are less than or equal to 95 percent of the annual total loads of the standard reference design in order to comply.		

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY: _____ DATE: 6-25-25 I hereby certify that this building, as designed, is in compliance with the Florida Energy Code. OWNER/AGENT: _____ DATE: _____	Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes. BUILDING OFFICIAL: _____ DATE: _____
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The seal of the State of Florida is circular, featuring a palm tree, a sun rising over water, and a person standing on a shore. The words "GREAT SEAL OF THE STATE OF FLORIDA" are inscribed around the perimeter, and "IN GOD WE TRUST" is at the bottom.

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INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Easom - ADU	Bedrooms:	1	Address type:	Street Address
Building Type:	User	Conditioned Area:	800	Lot #:	---
Owner:		Total Stories:	1	Block/SubDivision:	---
Builder Home ID:		Worst Case:	No	PlatBook:	---
Builder Name:		Rotate Angle:	0	Street:	
Permit Office:		Cross Ventilation:		County:	columbia
Jurisdiction:		Whole House Fan:		City, State, Zip:	, FL,
Family Type:	Detached	Terrain:	Rural		
New/Existing:	New (From Plans)	Shielding:	Moderate/Rural		
Year Construct:	2025				
Comment:					

CLIMATE

✓ Design Location	Tmy Site	Design Temp 97.5% 2.5%	Int Design Temp Winter Summer	Heating Degree Days	Design Moisture	Daily temp Range
___ FL, Gainesville	FL_GAINESVILLE_REGIONA	32 92	70 75	1305.5	51	Medium

BLOCKS

✓ Number	Name	Area	Volume
___ 1	Block1	800	6400 cu ft

SPACES

✓ Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___ 1	Main	800	6400	Yes	1	1	Yes	Yes	Yes

FLOORS

(Total Exposed Area = 800 sq.ft.)

✓ #	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim. Joist	U-Factor	SlabInsul. Vert/Horiz	Tile	Wood	Carpet
___ 1	Slab-On-Grade Edge Ins	Main	126	800 sqft	0.0 ---	0.563	0 (ft)/0 (ft)	0.20	0.60	0.20

ROOF

✓ #	Type	Materials	Roof Area	Gable Area	Framing. Fract.	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)
___ 1	Hip	Composition shingles	894 ft²	0 ft²	0.11	Medium	N	0.96	No	0.9	No	0	26.57

ATTIC

✓ #	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___ 1	Fullattic	Vented	300	800 ft²	N	N

CEILING

(Total Exposed Area = 800 sq.ft.)

✓ #	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	FramingFrac.	Truss Type
___ 1	Flat ceiling under attic(Vented)	Main	30.0	Blown	800.0ft²	0.030	0.11	Wood

INPUT SUMMARY CHECKLIST REPORT

WALLS															(Total Exposed Area = 1008 sq.ft.)				
✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade				
___ 1	S	Exterior	Frame - Wood	Main	13.0	22.0	0	8.0	0	176.0	0.084		0.23	0.75	0 %				
___ 2	W	Exterior	Frame - Wood	Main	13.0	41.0	0	8.0	0	328.0	0.084		0.23	0.75	0 %				
___ 3	N	Exterior	Frame - Wood	Main	13.0	22.0	0	8.0	0	176.0	0.084		0.23	0.75	0 %				
___ 4	E	Exterior	Frame - Wood	Main	13.0	41.0	0	8.0	0	328.0	0.084		0.23	0.75	0 %				

DOORS												(Total Exposed Area = 40 sq.ft.)		
✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area			
___ 1	N	Exterior	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²			
___ 2	E	Exterior	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²			

WINDOWS															(Total Exposed Area = 84 sq.ft.)		
✓ #	Ornt	Wall ID	Frame	Panes	NFRC U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	Sep. (ft)	Interior Shade	Screen	
___ 1	W	2	Vinyl	Low-E Double	Y 0.26	0.20	N	N	15.0	1	3.00	5.00	1.5	1.3	None	None	
___ 2	N	3	Vinyl	Low-E Double	Y 0.26	0.20	N	N	30.0	2	3.00	5.00	1.5	1.3	None	None	
___ 3	E	4	Vinyl	Low-E Double	Y 0.26	0.20	N	N	30.0	2	3.00	5.00	1.5	1.3	None	None	
___ 4	E	4	Vinyl	Low-E Double	Y 0.26	0.20	N	N	9.0	1	3.00	3.00	1.5	1.3	None	None	

INFILTRATION										
✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00030	640	35.11	65.92	0.1176	6.0	All	6400 cu ft

MASS					
✓ #	Mass Type	Area	Thickness	FurnitureFraction	Space
___ 1	Default(8lbs/sq.ft.)	0 ft²	0 ft	0.30	Main

HEATING SYSTEM										
✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	---GeothermalHeatPump---			Ducts	Block
						Entry	Power	Volt	Current	
___ 1	Electric Heat Pump	None/Single		HSPF: 8.00	24.0		0.00	0.00	0.00	sys#0 1

COOLING SYSTEM									
✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___ 1	PTAC and Room Unit	None/Single		EER:21	24.0	720	0.75	Ductless	1

INPUT SUMMARY CHECKLIST REPORT

HOT WATER SYSTEM												
✓	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixt. Flow	Trap	Pipe Ins.	Pipelength
	1	Electric	None	Main	0.92 (0.92)	50.0 gal	40 gal	120 deg	Standard	Yes	None	99
		Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits	
	1	No		NA	NA	NA	No	NA	NA	NA	None	

DUCTS														
✓	Duct #	-----Supply----- Location	R-Value	Area	-----Return----- Location	R-Value	Area	Leakage Type	AHU Location	CFM 25 TOT OUT	QN OUT	AHU SEALED	RLF	HVAC # Heat Cool

TEMPERATURES												
Programable Thermostat: Y				Ceiling Fans: N								
Cooling	[] Jan	[] Feb	[] Mar	[] Apr	[] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[] Oct	[] Nov	[] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[] Oct	[X] Nov	[X] Dec
Venting	[] Jan	[] Feb	[X] Mar	[X] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[X] Oct	[X] Nov	[] Dec

✓	Thermostat Schedule: HERS 2006 Reference													
	Schedule Type		1	2	3	4	5	6	Hours 7	8	9	10	11	12
	Cooling (WD)	AM PM	78 80	78 80	78 80	78 80	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78
	Cooling (WEH)	AM PM	78 80	78 80	78 80	78 80	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78
	Heating (WD)	AM PM	65 68	65 68	65 68	65 68	65 68	65 68	65 68	68 68	68 68	68 68	68 68	68 68
	Heating (WEH)	AM PM	65 68	65 68	65 68	65 68	65 68	65 68	65 68	68 68	68 68	68 68	68 68	68 68

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
Easom - ADU

, FL

6/26/2025

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	0.20, 0.26	No	No	W		1.5ft.	1.3ft.	15.0	0.0	15.0	9	24	363	Btuh			
2	2 NFRC	0.20, 0.26	No	No	N		1.5ft.	1.3ft.	30.0	0.0	30.0	9	9	274	Btuh			
3	2 NFRC	0.20, 0.26	No	No	E		1.5ft.	1.3ft.	30.0	0.0	30.0	9	24	727	Btuh			
4	2 NFRC	0.20, 0.26	No	No	E		1.5ft.	1.3ft.	9.0	0.0	9.0	9	24	218	Btuh			
Window Total									84 (sqft)					1582		Btuh		
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load			
1	Frame - Wood - Ext						0.09		13.0/0.0		176.0		2.3		398		Btuh	
2	Frame - Wood - Ext						0.09		13.0/0.0		313.0		2.3		708		Btuh	
3	Frame - Wood - Ext						0.09		13.0/0.0		126.0		2.3		285		Btuh	
4	Frame - Wood - Ext						0.09		13.0/0.0		269.0		2.3		609		Btuh	
Wall Total									884 (sqft)					2001		Btuh		
Doors	Type										Area (sqft)		HTM		Load			
1	Insulated - Exterior										20.0		13.8		276		Btuh	
2	Insulated - Exterior										20.0		13.8		276		Btuh	
Door Total									40 (sqft)					552		Btuh		
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load			
1	Vented Attic/DarkShingle						0.032		30.0/0.0		800.0		1.72		1376		Btuh	
Ceiling Total									800 (sqft)					1376		Btuh		
Floors	Type								R-Value		Size		HTM		Load			
1	Slab On Grade								0.0		800 (ft-perimeter)		0.0		0		Btuh	
Floor Total									800.0 (sqft)					0		Btuh		
	Envelope Subtotal:													5511		Btuh		
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load			
	Natural						0.14		6400		1		15.0		314		Btuh	
Internal gain							Occupants		Btuh/occupant		Appliance		Load					
							1		X 230		+		2400		2630		Btuh	
	Sensible Envelope Load:													8454		Btuh		
Duct load	NA, Supply(R0.0-None), Return(R0.0-None)													(DGM of 0.000)		0		Btuh
	Sensible Load All Zones													8454		Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title:
Easom - ADU

Climate:FL_GAINESVILLE_REGIONAL_A

, FL

6/26/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	8454 Btuh
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	8454 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	8454 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	520 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (1.0 people @ 200 Btuh per person)	200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	720 Btuh
	TOTAL GAIN	9175 Btuh

EQUIPMENT

1. PTAC and Room Unit	#	24000 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

, FL

Project Title:
Easom - ADU
Building Type: User

6/26/2025

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 0.20	Vinyl	0.26	W	15.0		10.4	156 Btuh
2	2, NFRC 0.20	Vinyl	0.26	N	30.0		10.4	312 Btuh
3	2, NFRC 0.20	Vinyl	0.26	E	30.0		10.4	312 Btuh
4	2, NFRC 0.20	Vinyl	0.26	E	9.0		10.4	94 Btuh
	Window Total				84.0(sqft)			874 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	176		3.55	625 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	313		3.55	1111 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	126		3.55	447 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	269		3.55	955 Btuh
	Wall Total				884(sqft)			3138 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
2	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
	Door Total				40(sqft)			736Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.032)	30.0/0.0	800		1.3	1019 Btuh
	Ceiling Total				800(sqft)			1019Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	126.0 ft(perim.)		47.2	5947 Btuh
	Floor Total				800 sqft			5947 Btuh
	Envelope Subtotal:							11714 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.19	6400	1.00	20.1		880 Btuh
Duct load	NA, R0.0, Supply(), Return()						(DLM of 0.000)	0 Btuh
All Zones	Sensible Subtotal All Zones							12594 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

, FL

Project Title:
Easom - ADU
Building Type: User

6/26/2025

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	12594 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	12594 Btuh

EQUIPMENT

1. Electric Heat Pump	#	24000 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