

Residential System Sizing Calculation

Summary

Project Title:
Zetrouer Residence

, FL

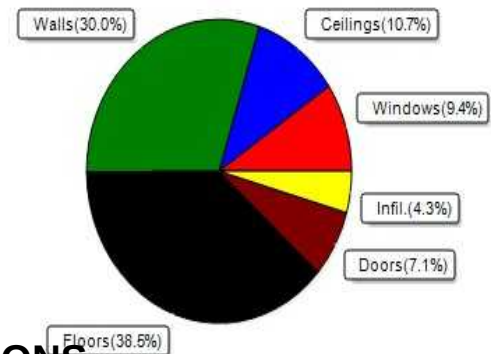
4/17/2026

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	13743 Btuh	Total cooling load calculation	11270 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	174.6 24000	Sensible (SHR = 0.75)	177.8 18000
Heat Pump + Auxiliary(0.0kW)	174.6 24000	Latent	523.3 6000
		Total (Electric Heat Pump)	213.0 24000

WINTER CALCULATIONS

Winter Heating Load (for 780 sqft)

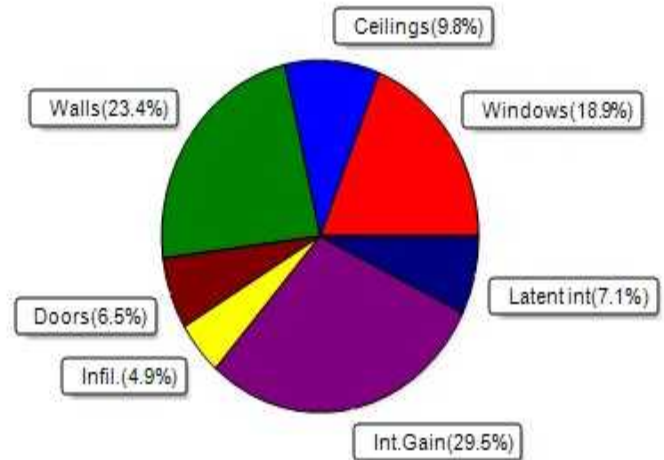
Load component	Load
Window total 147 sqft	1294 Btuh
Wall total 920 sqft	4129 Btuh
Door total 53 sqft	981 Btuh
Ceiling total 780 sqft	1466 Btuh
Floor total 780 sqft	5286 Btuh
Infiltration 13 cfm	586 Btuh
Duct loss	0 Btuh
Subtotal	13743 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	13743 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 780 sqft)

Load component	Load
Window total 147 sqft	2126 Btuh
Wall total 920 sqft	2632 Btuh
Door total 53 sqft	736 Btuh
Ceiling total 780 sqft	1100 Btuh
Floor total	0 Btuh
Infiltration 10 cfm	209 Btuh
Internal gain	3320 Btuh
Duct gain	0 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	10123 Btuh
Latent gain(ducts)	0 Btuh
Latent gain(infiltration)	347 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	800 Btuh
Total latent gain	1147 Btuh
TOTAL HEAT GAIN	11270 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY:

DATE: 4-17-26

Jonathan Morris

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
Zetrouer Residence

, FL

4/17/2026

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	0.33, 0.22	B-L	No	N	1.5ft.	1.3ft.	30.0	0.0	30.0	7	7	223	Btuh			
2	2 NFRC	0.33, 0.22	B-L	No	N	1.5ft.	1.3ft.	6.0	0.0	6.0	7	7	45	Btuh			
3	2 NFRC	0.33, 0.22	B-L	No	E	1.5ft.	13.3f	20.0	0.0	20.0	7	25	499	Btuh			
4	2 NFRC	0.33, 0.22	B-L	No	E	1.5ft.	13.5f	20.0	0.0	20.0	7	25	499	Btuh			
5	2 NFRC	0.33, 0.22	B-L	No	S	1.5ft.	1.3ft.	40.0	40.0	0.0	7	10	297	Btuh			
6	2 NFRC	0.33, 0.22	B-L	No	S	1.5ft.	1.3ft.	12.0	12.0	0.0	7	10	89	Btuh			
7	2 NFRC	0.33, 0.22	B-L	No	W	1.5ft.	1.3ft.	9.0	0.0	9.0	7	25	225	Btuh			
8	2 NFRC	0.33, 0.22	B-L	No	W	1.5ft.	1.3ft.	10.0	0.0	10.0	7	25	250	Btuh			
	Window Total								147 (sqft)					2126 Btuh			
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load		
									Cav/Sheath								
	1	Frame - Steel - Ext						0.112		13.0/0.0		264.0		2.86		756 Btuh	
	2	Frame - Steel - Ext						0.112		13.0/0.0		186.7		2.86		534 Btuh	
	3	Frame - Steel - Ext						0.112		13.0/0.0		248.0		2.86		710 Btuh	
	4	Frame - Steel - Ext						0.112		13.0/0.0		221.0		2.86		632 Btuh	
	Wall Total								920 (sqft)					2632 Btuh			
Doors	Type								Area (sqft)			HTM		Load			
	1	Insulated - Exterior								33.3			13.8		460 Btuh		
	2	Insulated - Exterior								20.0			13.8		276 Btuh		
	Door Total								53 (sqft)					736 Btuh			
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load		
	1	SnglAsmb no airsp/DarkMetal						0.047		21.0/0.0		780.0		1.41		1100 Btuh	
	Ceiling Total								780 (sqft)					1100 Btuh			
Floors	Type								R-Value		Size		HTM		Load		
	1	Slab On Grade								0.0		780 (ft-perimeter)		0.0		0 Btuh	
	Floor Total								780.0 (sqft)					0 Btuh			
	Envelope Subtotal:													6594 Btuh			
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load		
	Natural						0.08		7800		1		10.0		209 Btuh		
Internal gain	Occupants								Btuh/occupant		Appliance		Load				
	4								X 230		+		2400		3320 Btuh		
	Sensible Envelope Load:													10123 Btuh			
Duct load	Extremely sealed, Supply(R6.0-Condi), Return(R6.0-Condi)											(DGM of 0.000)		0 Btuh			
	Sensible Load All Zones													10123 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Zetrouer Residence

, FL

4/17/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	10123 Btuh
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	10123 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	10123 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	347 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	1147 Btuh
	TOTAL GAIN	11270 Btuh

EQUIPMENT

1. Central Unit	#	24000 Btuh
-----------------	---	------------

*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(1/2))
(Ornt - compass orientation)



Version 8

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

, FL

Project Title:
Zetrouer Residence
Building Type: User

4/17/2026

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 0.33	Vinyl	0.22	N	30.0		8.8	264 Btuh
2	2, NFRC 0.33	Vinyl	0.22	N	6.0		8.8	53 Btuh
3	2, NFRC 0.33	Vinyl	0.22	E	20.0		8.8	176 Btuh
4	2, NFRC 0.33	Vinyl	0.22	E	20.0		8.8	176 Btuh
5	2, NFRC 0.33	Vinyl	0.22	S	40.0		8.8	352 Btuh
6	2, NFRC 0.33	Vinyl	0.22	S	12.0		8.8	106 Btuh
7	2, NFRC 0.33	Vinyl	0.22	W	9.0		8.8	79 Btuh
8	2, NFRC 0.33	Vinyl	0.22	W	10.0		8.8	88 Btuh
	Window Total				147.0(sqft)			1294 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Steel	- Ext	(0.112)	13.0/0.0	264		4.49	1185 Btuh
2	Frame - Steel	- Ext	(0.112)	13.0/0.0	187		4.49	838 Btuh
3	Frame - Steel	- Ext	(0.112)	13.0/0.0	248		4.49	1113 Btuh
4	Frame - Steel	- Ext	(0.112)	13.0/0.0	221		4.49	992 Btuh
	Wall Total				920(sqft)			4129 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		33		18.4	613 Btuh
2	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
	Door Total				53(sqft)			981Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Single as/D/Metal		(0.047)	21.0/0.0	780		1.9	1466 Btuh
	Ceiling Total				780(sqft)			1466Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	112.0 ft(perim.)		47.2	5286 Btuh
	Floor Total				780 sqft			5286 Btuh
	Envelope Subtotal:							13156 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.10	7800	1.00	13.4		586 Btuh
Duct load	Extremely sealed, R6.0, Supply(Con), Return(Con)						(DLM of 0.000)	0 Btuh
All Zones	Sensible Subtotal All Zones							13743 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

, FL

Project Title:
Zetrouer Residence
Building Type: User

4/17/2026

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	13743 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	13743 Btuh

EQUIPMENT

1. Electric Heat Pump	#	24000 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