

Residential System Sizing Calculation

Summary

592 SW Churchill Way
592 SW Churchill Way
Lake City, FL 32025

Project Title:
Model 1549

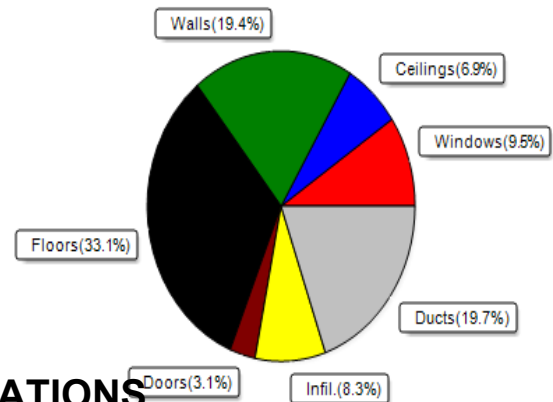
5/27/2025

Location for weather data: Ocala, FL - Defaults: Latitude(29.17) Altitude(89 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(41gr.)			
Winter design temperature(MJ8 99%/Cu)34	F	Summer design temperature(MJ8 99%/Cu)99	F
Winter setpoint	70	Summer setpoint	75
Winter temperature difference	36	Summer temperature difference	24
Total heating load calculation		21425	Btuh
Total cooling load calculation		20033	Btuh
Submitted heating capacity	% of calc	Btuh	
Total (Electric Heat Pump)	127.3	27276	
Heat Pump + Auxiliary(0.0kW)	127.3	27276	
Submitted cooling capacity	% of calc	Btuh	
Sensible (SHR = 0.75)	81.5	13791	
Latent	147.6	4597	
Total (Electric Heat Pump)	91.8	18388	

WINTER CALCULATIONS

Winter Heating Load (for 1549 sqft)

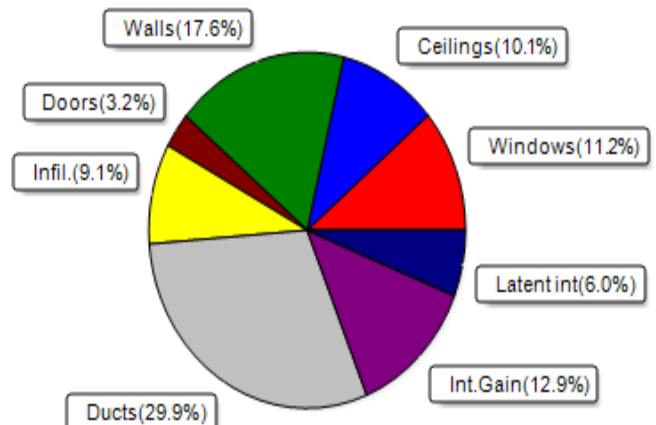
Load component	Load
Window total 157 sqft	2035 Btuh
Wall total 1303 sqft	4163 Btuh
Door total 40 sqft	662 Btuh
Ceiling total 1626 sqft	1486 Btuh
Floor total 1549 sqft	7086 Btuh
Infiltration 45 cfm	1777 Btuh
Duct loss	4215 Btuh
Subtotal	21425 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	21425 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1549 sqft)

Load component	Load
Window total 157 sqft	2242 Btuh
Wall total 1303 sqft	3527 Btuh
Door total 40 sqft	644 Btuh
Ceiling total 1626 sqft	2023 Btuh
Floor total	0 Btuh
Infiltration 34 cfm	889 Btuh
Internal gain	2580 Btuh
Duct gain	5013 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	16918 Btuh
Latent gain(ducts)	977 Btuh
Latent gain(infiltration)	939 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	1200 Btuh
Total latent gain	3115 Btuh
TOTAL HEAT GAIN	20033 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 5 / 27 / 2025

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

592 SW Churchill Way
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Lake City, FL 32025

Project Title:
Model 1549
Building Type: User

5/27/2025

Reference City: Ocala, FL (Defaults) Winter Temperature Difference: 36.0 °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 0.25	Vinyl	0.36	S	60.0		13.0	778 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	30.0		13.0	389 Btuh
3	2, NFRC 0.25	Vinyl	0.36	E	3.0		13.0	39 Btuh
4	2, NFRC 0.25	Vinyl	0.36	N	9.0		13.0	117 Btuh
5	2, NFRC 0.25	TIM	0.36	N	40.0		13.0	518 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	15.0		13.0	194 Btuh
Window Total					157.0(sqft)			2035 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	217		3.20	693 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	171		3.20	546 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	229		3.20	732 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	434		3.20	1387 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	252		3.20	805 Btuh
Wall Total					1303(sqft)			4163 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		16.6	331 Btuh
2	Insulated - Exterior, n		(0.460)		20		16.6	331 Btuh
Door Total					40(sqft)			662Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	1626		0.91	1486 Btuh
Ceiling Total					1626(sqft)			1486Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	166.8 ft(perim.)		42.5	7086 Btuh
Floor Total					1549 sqft			7086 Btuh
Envelope Subtotal:								15432 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.19	13941	1.00	45.0		1777 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.245)							4215 Btuh
All Zones	Sensible Subtotal All Zones							21425 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

592 SW Churchill Way
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Lake City, FL 32025

Project Title:
Model 1549
Building Type: User

5/27/2025

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	21425 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	21425 Btuh

EQUIPMENT

1. Electric Heat Pump	#	27276 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

592 SW Churchill Way
592 SW Churchill Way
Lake City, FL 32025

Project Title:
Model 1549

5/27/2025

Reference City: Ocala, FL (Defaults)
Humidity difference: 41gr.

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	0.25, 0.36	No	No	S		1.5ft.	1.0ft.	60.0	60.0	0.0	14	16	835	Btuh		
2	2 NFRC	0.25, 0.36	No	No	S		7.5ft.	1.0ft.	30.0	30.0	0.0	14	16	418	Btuh		
3	2 NFRC	0.25, 0.36	No	No	E		1.0ft.	3.0ft.	3.0	0.0	3.0	14	33	98	Btuh		
4	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	9.0	0.0	9.0	14	14	125	Btuh		
5	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	40.0	0.0	40.0	14	14	557	Btuh		
6	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	15.0	0.0	15.0	14	14	209	Btuh		
	Window Total								157 (sqft)					2242 Btuh			
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load		
									Cav/Sheath								
1	Frame - Wood - Ext						0.09		13.0/0.0		217.0		2.7		587 Btuh		
2	Frame - Wood - Ext						0.09		13.0/0.0		171.0		2.7		463 Btuh		
3	Frame - Wood - Ext						0.09		13.0/0.0		229.0		2.7		620 Btuh		
4	Frame - Wood - Ext						0.09		13.0/0.0		434.0		2.7		1175 Btuh		
5	Frame - Wood - Ext						0.09		13.0/0.0		252.0		2.7		682 Btuh		
	Wall Total										1303 (sqft)				3527 Btuh		
Doors	Type										Area (sqft)		HTM		Load		
1	Insulated - Exterior										20.0		16.1		322 Btuh		
2	Insulated - Exterior										20.0		16.1		322 Btuh		
	Door Total										40 (sqft)				644 Btuh		
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load		
1	Vented Attic/DarkShingle/RB						0.025		38.0/0.0		1626.4		1.24		2023 Btuh		
	Ceiling Total										1626 (sqft)				2023 Btuh		
Floors	Type								R-Value		Size		HTM		Load		
1	Slab On Grade								0.0		1549 (ft-perimeter)		0.0		0 Btuh		
	Floor Total										1549.0 (sqft)				0 Btuh		
	Envelope Subtotal:													8436 Btuh			
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load		
	Natural						0.15		13941		1		33.8		889 Btuh		
Internal gain							Occupants		Btuh/occupant		Appliance		Load				
							6		X 230		+		1200		2580 Btuh		
	Sensible Envelope Load:													11905 Btuh			
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)													(DGM of 0.421)		5013 Btuh	
	Sensible Load All Zones															16918 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

592 SW Churchill Way
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Lake City, FL 32025

Project Title:
Model 1549

Climate:FL_OCALA_MUNI_(AWOS)

5/27/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	11905 Btuh
	Sensible Duct Load	5013 Btuh
	Total Sensible Zone Loads	16918 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	16918 Btuh
	Latent infiltration gain (for 41 gr. humidity difference)	939 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	977 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3115 Btuh
	TOTAL GAIN	20033 Btuh

EQUIPMENT

1. Central Unit	#	18388 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