

Residential System Sizing Calculation

Summary

N/A

Project Title:

Lot 15 Jewel Lake - Avery Model - reduced

Lake City, FL 32025

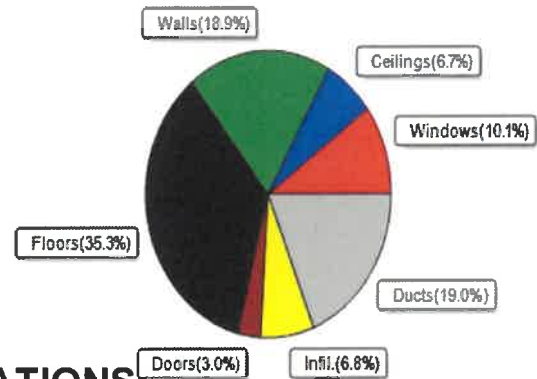
4/5/2022

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 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	24174 Btuh	Total cooling load calculation	18769 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 24174	Sensible (SHR = 0.70)	85.0 13138
Heat Pump + Auxiliary(0.0kW)	100.0 24174	Latent	169.7 5631
		Total (Electric Heat Pump)	100.0 18769

WINTER CALCULATIONS

Winter Heating Load (for 1528 sqft)

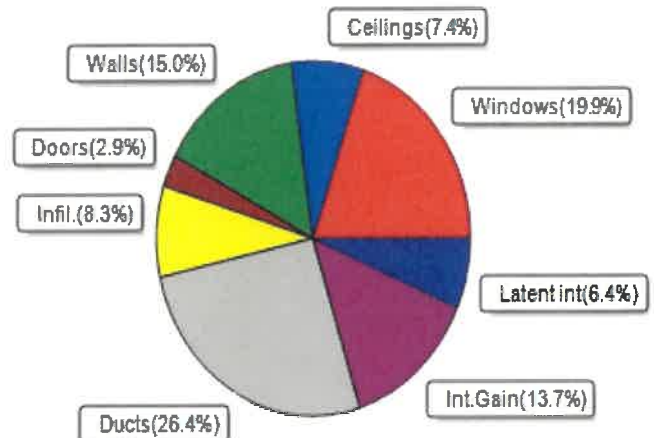
Load component		Load	
Window total	170 sqft	2448	Btuh
Wall total	1290 sqft	4580	Btuh
Door total	40 sqft	736	Btuh
Ceiling total	1604 sqft	1629	Btuh
Floor total	1528 sqft	8543	Btuh
Infiltration	38 cfm	1649	Btuh
Duct loss		4589	Btuh
Subtotal		24174	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		24174	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1528 sqft)

Load component		Load	
Window total	170 sqft	3726	Btuh
Wall total	1290 sqft	2817	Btuh
Door total	40 sqft	552	Btuh
Ceiling total	1604 sqft	1385	Btuh
Floor total		0	Btuh
Infiltration	28 cfm	588	Btuh
Internal gain		2580	Btuh
Duct gain		3804	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		15451	Btuh
Latent gain(ducts)		1143	Btuh
Latent gain(infiltration)		975	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		3318	Btuh
TOTAL HEAT GAIN		18769	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY:

DATE:

4 / 5 / 2022

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

N/A

Lake City, FL 32025

Project Title:
Lot 15 Jewel Lake - Avery Model - reduced
Building Type: User

4/5/2022

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

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.25	Vinyl	0.36	NE	15.0		14.4	216 Btuh
2	2, NFRC 0.25	Vinyl	0.36	NE	30.0		14.4	432 Btuh
3	2, NFRC 0.25	Vinyl	0.36	NE	12.0		14.4	173 Btuh
4	2, NFRC 0.25	Vinyl	0.36	SE	20.0		14.4	288 Btuh
5	2, NFRC 0.25	Vinyl	0.36	SW	75.0		14.4	1080 Btuh
6	2, NFRC 0.25	Vinyl	0.36	SW	9.0		14.4	130 Btuh
7	2, NFRC 0.25	Vinyl	0.36	NE	9.0		14.4	130 Btuh
Window Total					170.0(sqft)			2448 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	140		3.55	495 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	89		3.55	314 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	148		3.55	525 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	225		3.55	797 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	27		3.55	96 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	348		3.55	1236 Btuh
7	Frame - Wood	- Adj	(0.089)	13.0/0.0	178		3.55	632 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	63		3.55	224 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	74		3.55	261 Btuh
Wall Total					1290(sqft)			4580 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
2	Insulated - Garage, 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	Vented Attic/L/Shing		(0.025)	38.0/0.0	1604		1.0	1629 Btuh
Ceiling Total					1604(sqft)			1629Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	181.0 ft(perim.)		47.2	8543 Btuh
Floor Total					1528 sqft			8543 Btuh
Envelope Subtotal:								17936 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.16	13752	1.00	37.7		1649 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.234)							4589 Btuh
All Zones	Sensible Subtotal All Zones							24174 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

N/A

Lake City, FL 32025

Project Title:
Lot 15 Jewel Lake - Avery Model - reduced
Building Type: User

4/5/2022

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	24174 Btuh 0 Btuh 24174 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	24174 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

N/A

Project Title:

Lot 15 Jewel Lake - Avery Model - reduced

Lake City, FL 32025

4/5/2022

Reference City: Gainesville, FL

Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

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	NE		1.5ft.	1.0ft.	15.0	0.0	15.0	12	24	355	Btuh	
2	2 NFRC	0.25, 0.36	No	No	NE		1.5ft.	1.0ft.	30.0	0.0	30.0	12	24	709	Btuh	
3	2 NFRC	0.25, 0.36	No	No	NE		6.5ft.	1.0ft.	12.0	0.0	12.0	12	24	284	Btuh	
4	2 NFRC	0.25, 0.36	No	No	SE		1.5ft.	1.0ft.	20.0	5.9	14.1	12	25	421	Btuh	
5	2 NFRC	0.25, 0.36	No	No	SW		1.5ft.	1.0ft.	75.0	22.0	53.0	12	25	1578	Btuh	
6	2 NFRC	0.25, 0.36	No	No	SW		1.5ft.	1.0ft.	9.0	4.4	4.6	12	25	167	Btuh	
7	2 NFRC	0.25, 0.36	No	No	NE		1.5ft.	1.0ft.	9.0	0.0	9.0	12	24	213	Btuh	
Window Total									170 (sqft)					3726 Btuh		
Walls	Type						U-Value	R-Value	Area(sqft)		HTM		Load			
							Cav/Sheath									
1	Frame - Wood - Ext						0.09	13.0/0.0	139.5		2.3		316 Btuh			
2	Frame - Wood - Ext						0.09	13.0/0.0	88.5		2.3		200 Btuh			
3	Frame - Wood - Ext						0.09	13.0/0.0	148.0		2.3		335 Btuh			
4	Frame - Wood - Ext						0.09	13.0/0.0	224.5		2.3		508 Btuh			
5	Frame - Wood - Ext						0.09	13.0/0.0	27.0		2.3		61 Btuh			
6	Frame - Wood - Ext						0.09	13.0/0.0	348.0		2.3		788 Btuh			
7	Frame - Wood - Adj						0.09	13.0/0.0	178.0		1.7		300 Btuh			
8	Frame - Wood - Ext						0.09	13.0/0.0	63.0		2.3		143 Btuh			
9	Frame - Wood - Ext						0.09	13.0/0.0	73.5		2.3		166 Btuh			
Wall Total									1290 (sqft)					2817 Btuh		
Doors	Type								Area (sqft)		HTM		Load			
	1 Insulated - Exterior								20.0		13.8		276 Btuh			
	2 Insulated - Garage								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/Light/Shingle/RB						0.025	38.0/0.0	1604.4		0.86		1385 Btuh			
Ceiling Total									1604 (sqft)					1385 Btuh		
Floors	Type						R-Value		Size		HTM		Load			
	1 Slab On Grade						0.0		1528 (ft-perimeter)		0.0		0 Btuh			
Floor Total									1528.0 (sqft)					0 Btuh		
	Envelope Subtotal:													8479 Btuh		
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load	
	Natural						0.12		13752		1		28.2		588 Btuh	
Internal gain						Occupants		Btuh/occupant		Appliance		Load				
						6		X 230		+		1200		2580 Btuh		
	Sensible Envelope Load:													11647 Btuh		
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)										(DGM of 0.327)		3804 Btuh			
	Sensible Load All Zones													15451 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

N/A

Project Title: Climate: FL_GAINESVILLE_REGIONAL_A
Lot 15 Jewel Lake - Avery Model - reduced

Lake City, FL 32025

4/5/2022

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	11647 Btuh
	Sensible Duct Load	3804 Btuh
	Total Sensible Zone Loads	15451 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	15451 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	975 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1143 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3318 Btuh
	TOTAL GAIN	18769 Btuh

EQUIPMENT

1. Central Unit	#	18769 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

INVOICE



DATE: 4/8/2022

TO: Oakridge, ALF
c/o Sorensen & Smith, LLC
297 SW County Rd 300
Mayo, FL

DUE UPON RECEIPT

QUANTITY	DESCRIPTION	TOTAL
1	Repairs to the damaged areas of concrete pavement and repairs to East boundary fence	\$ 39,500.00
SUBTOTAL		\$39,500.00
BALANCE BROUGHT FORWARD		\$0.00
TOTAL DUE		\$39,500.00

Make all checks payable to GSMS Developers, Inc.
If you have any questions concerning this invoice, contact:
Jessica Murphy at jessicamurphy@circleoflifecommunities.com

THANK YOU FOR YOUR BUSINESS!