

Residential System Sizing Calculation

Summary

Project Title:
Lot 30 Jewel Lake II

Lake City, FL 32025

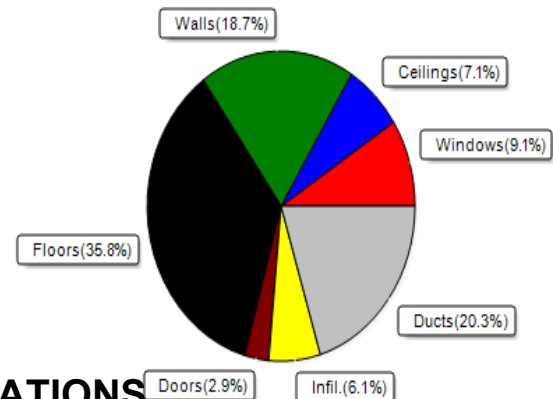
3/2/2022

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		24162 Btuh	Total cooling load calculation		20293 Btuh
Submitted heating capacity % of calc Btuh			Submitted cooling capacity % of calc Btuh		
Total (Electric Heat Pump) 100.0 24162			Sensible (SHR = 0.70) 81.3 13510		
Heat Pump + Auxiliary(0.0kW) 100.0 24162			Latent 157.2 5790		
			Total (Electric Heat Pump) 95.1 19300		

WINTER CALCULATIONS

Winter Heating Load (for 1607 sqft)

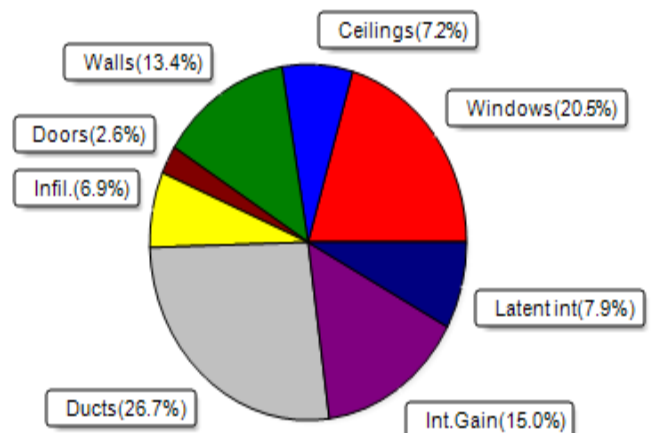
Load component	Load	
Window total	153 sqft	2208 Btuh
Wall total	1273 sqft	4519 Btuh
Door total	38 sqft	695 Btuh
Ceiling total	1687 sqft	1713 Btuh
Floor total	1607 sqft	8653 Btuh
Infiltration	34 cfm	1471 Btuh
Duct loss		4903 Btuh
Subtotal		24162 Btuh
Ventilation	0 cfm	0 Btuh
TOTAL HEAT LOSS		24162 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1607 sqft)

Load component	Load	
Window total	153 sqft	4155 Btuh
Wall total	1273 sqft	2717 Btuh
Door total	38 sqft	521 Btuh
Ceiling total	1687 sqft	1456 Btuh
Floor total		0 Btuh
Infiltration	25 cfm	524 Btuh
Internal gain		3040 Btuh
Duct gain		4196 Btuh
Sens. Ventilation	0 cfm	0 Btuh
Blower Load		0 Btuh
Total sensible gain		16610 Btuh
Latent gain(ducts)		1214 Btuh
Latent gain(infiltration)		869 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		1600 Btuh
Total latent gain		3683 Btuh
TOTAL HEAT GAIN		20293 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

3 / 2 / 2022

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Lake City, FL 32025

Project Title:
Lot 30 Jewel Lake II
Building Type: User

3/2/2022

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	E	30.0		14.4	432 Btuh
2	2, NFRC 0.25	Vinyl	0.36	N	15.0		14.4	216 Btuh
3	2, NFRC 0.25	Vinyl	0.36	W	60.0		14.4	864 Btuh
4	2, NFRC 0.25	Metal	0.36	W	33.3		14.4	480 Btuh
5	2, NFRC 0.25	Vinyl	0.36	S	15.0		14.4	216 Btuh
	Window Total				153.3(sqft)			2208 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	91		3.55	324 Btuh
2	Frame - Wood	- Adj	(0.089)	13.0/0.0	126		3.55	448 Btuh
3	Frame - Wood	- Adj	(0.089)	13.0/0.0	157		3.55	559 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	273		3.55	969 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	169		3.55	601 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	64		3.55	227 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	39		3.55	137 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	353		3.55	1253 Btuh
	Wall Total				1273(sqft)			4519 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)		18		18.4	327 Btuh
	Door Total				38(sqft)			695Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Vented Attic/L/Shing		(0.025)	38.0/0.0	1687		1.0	1713 Btuh
	Ceiling Total				1687(sqft)			1713Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	183.3 ft(perim.)		47.2	8653 Btuh
	Floor Total				1607 sqft			8653 Btuh
					Envelope Subtotal:			17788 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		Load
	Natural		0.16	12856	1.00	33.6		1471 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.255)							4903 Btuh
All Zones	Sensible Subtotal All Zones							24162 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Lake City, FL 32025

Project Title:
Lot 30 Jewel Lake II
Building Type: User

3/2/2022

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	24162 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	24162 Btuh

EQUIPMENT

1. Electric Heat Pump	#	24162 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

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
 Lot 30 Jewel Lake II

Lake City, FL 32025

3/2/2022

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	12414 Btuh
	Sensible Duct Load	4196 Btuh
	Total Sensible Zone Loads	16610 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	16610 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	869 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1214 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3683 Btuh
	TOTAL GAIN	20293 Btuh

EQUIPMENT

1. Central Unit	#	19300 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(½))
 (Ornt - compass orientation)



Version 8