

Residential System Sizing Calculation

Summary

David Reyes

Project Title:

David Reyes - Lot 2 Forest Country 1

Lake City, FL 32024

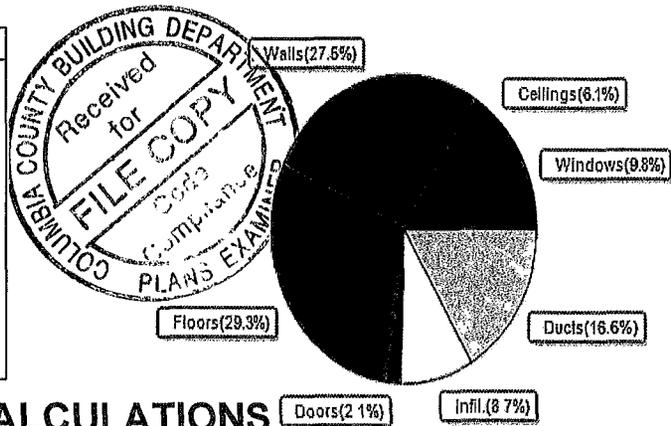
10/2/2025

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (79F) Humidity difference(54gr.)			
Winter design temperature(MJ8 99%/Cu)33 F			Summer design temperature(MJ8 99%/Cu)99 F
Winter setpoint 70 F			Summer setpoint 75 F
Winter temperature difference 37 F			Summer temperature difference 24 F
Total heating load calculation	38367 Btuh	Total cooling load calculation	34452 Btuh
Submitted heating capacity % of calc Btuh			Submitted cooling capacity % of calc Btuh
Total (Electric Heat Pump) 107.5 41226			Sensible (SHR = 0.70) 75.3 21752
Heat Pump + Auxiliary(0.0kW) 107.5 41226			Latent 167.7 9322
		Total (Electric Heat Pump)	90.2 31075

WINTER CALCULATIONS

Winter Heating Load (for 2263 sqft)

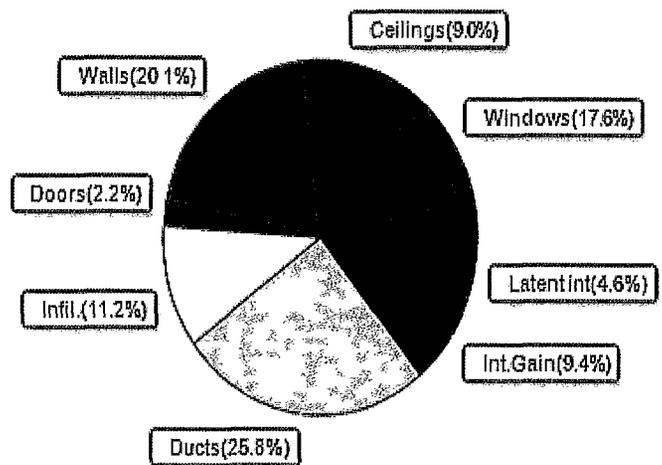
Load component			Load	
Window total	281	sqft	3748	Btuh
Wall total	2029	sqft	10533	Btuh
Door total	48	sqft	817	Btuh
Ceiling total	2489	sqft	2338	Btuh
Floor total	2263	sqft	11235	Btuh
Infiltration	82	cfm	3327	Btuh
Duct loss			6370	Btuh
Subtotal			38367	Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm			0 Btuh
TOTAL HEAT LOSS			38367	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2263 sqft)

Load component			Load	
Window total	281	sqft	6078	Btuh
Wall total	2029	sqft	6911	Btuh
Door total	48	sqft	773	Btuh
Ceiling total	2489	sqft	3096	Btuh
Floor total			0	Btuh
Infiltration	62	cfm	1618	Btuh
Internal gain			3240	Btuh
Duct gain			7178	Btuh
Sens Ventilation	Ex:0 cfm, Sup:0 cfm			0 Btuh
Blower Load			0	Btuh
Total sensible gain			28894	Btuh
Latent gain(ducts)			1707	Btuh
Latent gain(infiltration)			2251	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1600	Btuh
Total latent gain			5558	Btuh
TOTAL HEAT GAIN			34452	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: *Will C. [Signature]*

DATE:

10/2/2025

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

David Reyes

Project Title:

David Reyes - Lot 2 Forest Country 1

Lake City, FL 32024

Building Type: User

10/2/2025

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 °F (MJ8 99%/Cu)

Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Whole House							
Window	Panels/Type	Frame	U	Orientation	Area(sqft)	X	HTM= Load
1	2, NFRC 0.25	Vinyl	0.36	SE	18.0	13.3	240 Btuh
2	2, NFRC 0.25	Vinyl	0.36	SE	84.0	13.3	1119 Btuh
3	2, NFRC 0.25	Vinyl	0.36	SE	16.0	13.3	213 Btuh
4	2, NFRC 0.25	Vinyl	0.36	NE	4.0	13.3	53 Btuh
5	2, NFRC 0.25	Vinyl	0.36	NE	16.0	13.3	213 Btuh
6	2, NFRC 0.25	Vinyl	0.36	NE	36.0	13.3	480 Btuh
7	2, NFRC 0.25	TIM	0.36	NW	48.0	13.3	639 Btuh
8	2, NFRC 0.25	Vinyl	0.36	NW	20.0	13.3	266 Btuh
9	2, NFRC 0.25	Vinyl	0.36	NW	18.0	13.3	240 Btuh
10	2, NFRC 0.25	Vinyl	0.36	SW	18.0	13.3	240 Btuh
11	2, NFRC 0.25	Vinyl	0.36	SW	3.4	13.3	45 Btuh
Window Total					281.4(sqft)		3748 Btuh
Walls	Type	Ornt	Ueff.	R-Value (Cav/Sh)	Area	X	HTM= Load
1	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	100	5.44	545 Btuh
2	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	69	5.44	377 Btuh
3	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	130	5.44	708 Btuh
4	Frame - Wood - Adj		(0.089)	13.0/0.0	96	3.28	317 Btuh
5	Frame - Wood - Adj		(0.089)	13.0/0.0	138	3.28	452 Btuh
6	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	317	5.44	1726 Btuh
7	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	168	5.44	914 Btuh
8	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	162	5.44	880 Btuh
9	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	162	5.44	883 Btuh
10	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	75	5.44	406 Btuh
11	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	100	5.44	545 Btuh
12	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	106	5.44	575 Btuh
13	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	37	5.44	203 Btuh
14	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	125	5.44	681 Btuh
15	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	37	5.44	203 Btuh
16	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	205	5.44	1116 Btuh
Wall Total					2029(sqft)		10533 Btuh
Doors	Type	Storm	Ueff.	R-Value	Area	X	HTM= Load
1	Insulated - Exterior, n		(0.460)		24	17.0	408 Btuh
2	Insulated - Garage, n		(0.460)		24	17.0	408 Btuh
Door Total					48(sqft)		817 Btuh
Ceilings	Type/Color/Surface	Ueff.	R-Value	Area	X	HTM= Load	
1	Flat ceil/D/Shing	(0.025)	38.0/0.0	2489	0.94	2338 Btuh	
Ceiling Total					2489(sqft)		2338 Btuh
Floors	Type	Ueff.	R-Value	Size	X	HTM= Load	
1	Slab On Grade	(1.180)	0.0	257.3 ft(perim.)	43.7	11235 Btuh	
Floor Total					2263 sqft		11235 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

David Reyes

Project Title:

David Reyes - Lot 2 Forest Country 1

Lake City, FL 32024

Building Type: User

10/2/2025

	Envelope Subtotal:	28670 Btuh
Infiltration	Type Natural	Wholehouse ACH Volume(cuft) Wall Ratio CFM= 0.23 21114 1.00 82.1
		3327 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.199)	
		6370 Btuh
All Zones	Sensible Subtotal All Zones	38367 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	38367 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	38367 Btuh

EQUIPMENT

1. Electric Heat Pump	#	41226 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

Manual J Summer Calculations

Residential Load - Component Details (continued)

David Reyes

Project Title: Climate.FL_GAINESVILLE_REGIONAL_A

David Reyes - Lot 2 Forest Country 1

Lake City, FL 32024

10/2/2025

Infiltration	Type Natural	Average ACH 0.18	Volume(cuft) 21114	Wall Ratio 1	CFM= 61.6	Load 1618 Btuh
Internal gain		Occupants 8	Btuh/occupant X 230	Appliance +	1400	Load 3240 Btuh
	Sensible Envelope Load:					21716 Btuh
Duct load	Average sealed,Supply(R6 0-Attic), Return(R6 0-Attic)				(DGM of 0.331)	7178 Btuh
	Sensible Load All Zones					28894 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

David Reyes

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A

David Reyes - Lot 2 Forest Country 1

Lake City, FL 32024

10/2/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	21716 Btuh
	Sensible Duct Load	7178 Btuh
	Total Sensible Zone Loads	28894 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	28894 Btuh
	Latent infiltration gain (for 54 gr. humidity difference)	2251 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1707 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	5558 Btuh
	TOTAL GAIN	34452 Btuh

EQUIPMENT

1 Central Unit	#	31075 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