Residential System Sizing Calculation

Summary

David Reyes

Lake City, FL 32024

Project Title:
David Reyes - Lot 2 Forest Country 1

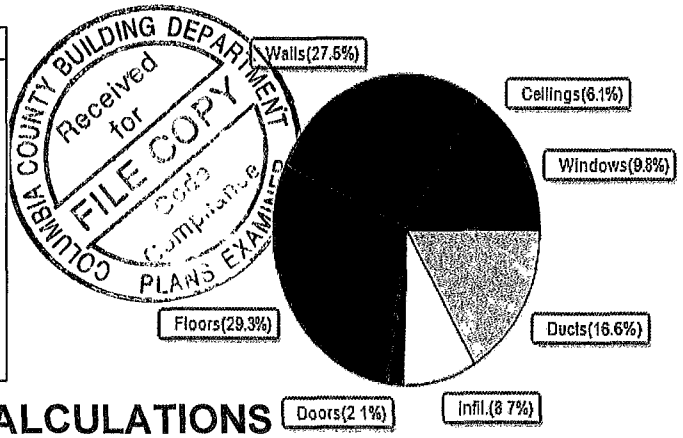
10/2/2025

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)

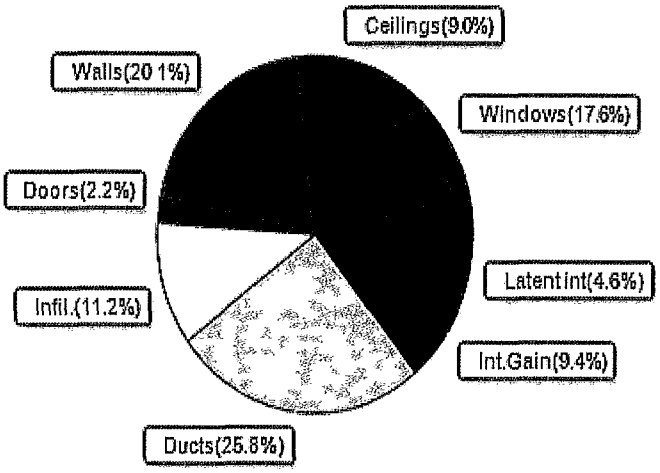
Load component			Load	
Window total	281	sqft	3748	Btuh
Wall total	2029	sqft	10533	Btuh
Door total	48	sqft	817	Btuh
Ceiling total	2489	sqft	2338	Btuh
Floor total	2263	sqft	11235	Btuh
Infiltration	82	cfm	3327	Btuh
Duct loss			6370	Btuh
Subtotal			**38367**	**Btuh**
Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh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



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EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 10 / 2 / 2025

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

David Reyes
Lake City, FL 32024

Project Title:
David Reyes - Lot 2 Forest Country 1
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	Panes/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.	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)		817Btuh

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)		2338Btuh

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

Lake City, FL 32024

Project Title:
David Reyes - Lot 2 Forest Country 1
Building Type: User

10/2/2025

				Envelope Subtotal:			28670 Btuh
Infiltration	Type Natural	Wholehouse	ACH 0.23	Volume(cuft) 21114	Wall Ratio 1.00	CFM= 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 Ventilation Sens. Heat Loss Total Heat Loss	(Ex:0 cfm; Sup:0 cfm)	38367 Btuh 0 Btuh 38367 Btuh

EQUIPMENT

1. Electric Heat Pump	#	41226 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

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

David Reyes

Lake City, FL 32024

Project Title.
David Reyes - Lot 2 Forest Country 1

10/2/2025

Reference City: Gainesville, FL (Defaults)
Humidity difference: 54gr.

Temperature Difference: 24.0F(MJ8 99%/Cu)
Summer Setpoint· 75 °F (Required Manual J default)

Component Loads for Whole House

Window	Type* Panes	SHGC	U	InSh	IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	2 NFRC	0 25, 0 36		No	No	SE	1 5ft	1 0ft	18 0	4 4	13 6	14	27	422 Btuh
2	2 NFRC	0 25, 0 36		No	No	SE	9 5ft	1 0ft	84 0	84 0	0 0	14	27	1167 Btuh
3	2 NFRC	0 25, 0 36		No	No	SE	9 5ft	1 0ft	16 0	16 0	0 0	14	27	222 Btuh
4	2 NFRC	0 25, 0 36		No	No	NE	1 5ft.	1 0ft.	4 0	0 0	4 0	14	25	102 Btuh
5	2 NFRC	0 25, 0 36		No	No	NE	1 5ft	1 0ft	16 0	0 0	16 0	14	25	407 Btuh
6	2 NFRC	0 25, 0 36		No	No	NE	1 5ft	1 0ft	36 0	0 0	36 0	14	25	916 Btuh
7	2 NFRC	0.25, 0 36		No	No	NW	9 5ft	1 0ft	48 0	0 0	48 0	14	25	1221 Btuh
8	2 NFRC	0 25, 0.36		No	No	NW	9 5ft	1 0ft	20 0	0 0	20 0	14	25	509 Btuh
9	2 NFRC	0 25, 0 36		No	No	NW	1 5ft	1 0ft	18 0	0 0	18 0	14	25	458 Btuh
10	2 NFRC	0 25, 0 36		No	No	SW	1 5ft	1 0ft	18 0	4 4	13 6	14	27	422 Btuh
11	2 NFRC	0 25, 0 36		No	No	SW	1 5ft	1 0ft	3 4	2 7	0 7	14	27	55 Btuh
	Excursion													176 Btuh
	Window Total								281 (sqft)					6078 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	100 2	3 6	358 Btuh
2	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	69 3	3 6	248 Btuh
3	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	130 2	3 6	465 Btuh
4	Frame - Wood - Adj	0 09	13 0/0 0	96 4	2 1	205 Btuh
5	Frame - Wood - Adj	0 09	13 0/0 0	137 8	2 1	293 Btuh
6	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	317 3	3 6	1134 Btuh
7	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	168 0	3 6	600 Btuh
8	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	161 8	3 6	578 Btuh
9	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	162 2	3 6	580 Btuh
10	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	74 7	3 6	267 Btuh
11	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	100 2	3 6	358 Btuh
12	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	105 8	3 6	378 Btuh
13	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	37 3	3 6	133 Btuh
14	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	125 1	3 6	447 Btuh
15	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	37 3	3 6	133 Btuh
16	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	205 1	3 6	733 Btuh
	Wall Total			2029 (sqft)		6911 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	24 0	16 1	386 Btuh
2	Insulated - Garage	24 0	16 1	386 Btuh
	Door Total	48 (sqft)		773 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/DarkShingle/RB	0 025	38 0/0 0	2489 3	1 24	3096 Btuh
	Ceiling Total			2489 (sqft)		3096 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0 0	2263 (ft-perimeter)	0 0	0 Btuh
	Floor Total		2263.0 (sqft)		0 Btuh

		Load
	Envelope Subtotal:	16858 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

David Reyes
Lake City, FL 32024

Project Title: Climate.FL_GAINESVILLE_REGIONAL_A
David Reyes - Lot 2 Forest Country 1

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
Lake City, FL 32024

Project Title: David Reyes - Lot 2 Forest Country 1
Climate:FL_GAINESVILLE_REGIONAL_A

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

*Key Window types (Panes - 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)

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