Residential System Sizing Calculation

Summary

Project Title:
IC Const. - Oaks Spec

, FL

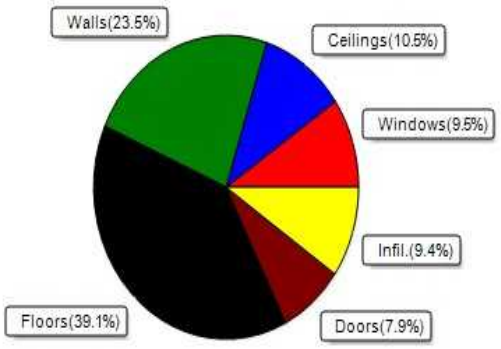
5/15/2026

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(100 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	**38981**	**Btuh**	**Total cooling load calculation**	**33848**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	153.9	60000	Sensible (SHR = 0.85)	171.8	51000
Heat Pump + Auxiliary(0.0kW)	153.9	60000	Latent	216.0	9000
			Total (Electric Heat Pump)	177.3	60000

WINTER CALCULATIONS

Winter Heating Load (for 3023 sqft)

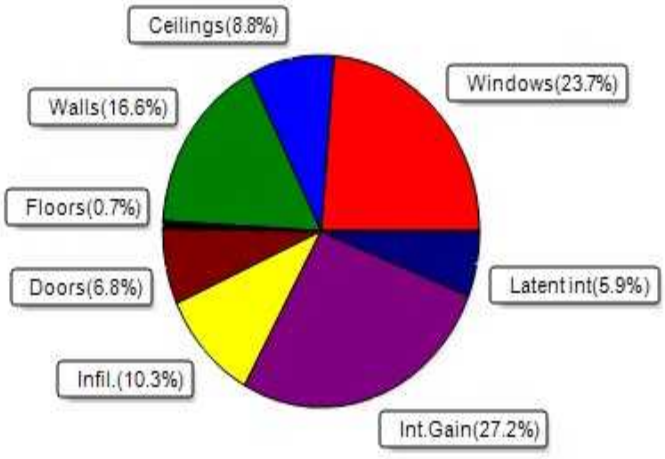
Load component			Load	
Window total	421	sqft	3705	Btuh
Wall total	2584	sqft	9175	Btuh
Door total	168	sqft	3091	Btuh
Ceiling total	3023	sqft	4112	Btuh
Floor total	See detail report		15232	Btuh
Infiltration	84	cfm	3667	Btuh
Duct loss			0	Btuh
Subtotal			**38981**	**Btuh**
Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS			**38981**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 3023 sqft)

Load component			Load	
Window total	421	sqft	8020	Btuh
Wall total	2584	sqft	5612	Btuh
Door total	168	sqft	2318	Btuh
Ceiling total	3023	sqft	2981	Btuh
Floor total			243	Btuh
Infiltration	63	cfm	1306	Btuh
Internal gain			9200	Btuh
Duct gain			0	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load			0	Btuh
Total sensible gain			**29680**	**Btuh**
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			2168	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			2000	Btuh
Total latent gain			**4168**	**Btuh**
TOTAL HEAT GAIN			**33848**	**Btuh**



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EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 5-14-26

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
IC Const. - Oaks Spec

, FL

5/15/2026

Reference City: Gainesville, FL (Defaults)
Humidity difference: 51gr.

Temperature Difference: 19.0F(TMY3 99%)
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	0.33, 0.22		No	No	N	2.0ft.	1.5ft.	36.0	0.0	36.0	11	11	400	Btuh
2	2 NFRC	0.33, 0.22		No	No	N	1.3ft.	1.5ft.	26.3	0.0	26.3	11	11	292	Btuh
3	2 NFRC	0.33, 0.22		No	No	W	2.0ft.	1.5ft.	36.0	1.0	35.0	11	36	1272	Btuh
4	2 NFRC	0.33, 0.22		No	No	N	2.0ft.	1.5ft.	36.0	0.0	36.0	11	11	400	Btuh
5	2 NFRC	0.33, 0.22		No	No	W	2.0ft.	1.5ft.	36.0	1.0	35.0	11	36	1272	Btuh
6	2 NFRC	0.33, 0.22		No	No	N	2.0ft.	1.5ft.	36.0	0.0	36.0	11	11	400	Btuh
7	2 NFRC	0.33, 0.22		No	No	N	2.0ft.	1.5ft.	5.8	0.0	5.8	11	11	65	Btuh
8	2 NFRC	0.33, 0.22		No	No	N	2.0ft.	1.5ft.	8.0	0.0	8.0	11	11	89	Btuh
9	2 NFRC	0.33, 0.22		No	No	E	2.0ft.	1.5ft.	20.0	0.6	19.4	11	36	704	Btuh
10	2 NFRC	0.33, 0.22		No	No	E	2.0ft.	1.5ft.	18.0	0.5	17.5	11	36	636	Btuh
11	2 NFRC	0.33, 0.22		No	No	S	2.0ft.	1.5ft.	18.0	18.0	0.0	11	14	200	Btuh
12	2 NFRC	0.33, 0.22		No	No	S	2.0ft.	7.5ft.	42.7	20.6	22.1	11	14	531	Btuh
13	2 NFRC	0.33, 0.22		No	No	S	1.3ft.	1.5ft.	26.3	26.3	0.0	11	14	292	Btuh
14	2 NFRC	0.33, 0.22		No	No	S	2.0ft.	1.5ft.	36.0	36.0	0.0	11	14	400	Btuh
15	2 NFRC	0.33, 0.22		No	No	W	2.0ft.	1.5ft.	7.0	1.0	6.0	11	36	228	Btuh
16	2 NFRC	0.33, 0.22		No	No	W	2.0ft.	1.5ft.	18.0	0.5	17.5	11	36	636	Btuh
17	2 NFRC	0.33, 0.22		No	No	S	1.3ft.	1.5ft.	15.0	15.0	0.0	11	14	167	Btuh
	Excursion AE														
	Window Total								421 (sqft)					8020	Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
IC Const. - Oaks Spec

, FL

5/15/2026

Walls	Type	U-Value	R-Value	Area(sqft)	HTM	Load	
			Cav/Sheath				
1	Frame - Wood - Ext	0.089	13.0/0.0	63.3	2.26	143	Btuh
2	Frame - Wood - Ext	0.089	13.0/0.0	56.7	2.26	128	Btuh
3	Frame - Wood - Ext	0.089	13.0/0.0	84.0	2.26	190	Btuh
4	Frame - Wood - Ext	0.089	13.0/0.0	120.0	2.26	272	Btuh
5	Frame - Wood - Ext	0.089	13.0/0.0	67.8	2.26	153	Btuh
6	Frame - Wood - Ext	0.089	13.0/0.0	84.0	2.26	190	Btuh
7	Frame - Wood - Ext	0.089	13.0/0.0	84.0	2.26	190	Btuh
8	Frame - Wood - Ext	0.089	13.0/0.0	74.0	2.26	167	Btuh
9	Frame - Wood - Ext	0.089	13.0/0.0	114.0	2.26	258	Btuh
10	Frame - Wood - Ext	0.089	13.0/0.0	20.0	2.26	45	Btuh
11	Frame - Wood - Ext	0.089	13.0/0.0	74.2	2.26	168	Btuh
12	Frame - Wood - Ext	0.089	13.0/0.0	10.0	2.26	23	Btuh
13	Frame - Wood - Ext	0.089	13.0/0.0	52.0	2.26	118	Btuh
14	Frame - Wood - Ext	0.089	13.0/0.0	190.0	2.26	430	Btuh
15	Frame - Wood - Ext	0.089	13.0/0.0	60.0	2.26	136	Btuh
16	Frame - Wood - Ext	0.089	13.0/0.0	87.0	2.26	197	Btuh
17	Frame - Wood - Adj	0.089	13.0/0.0	411.0	1.69	693	Btuh
18	Frame - Wood - Ext	0.089	13.0/0.0	102.0	2.26	231	Btuh
19	Frame - Wood - Ext	0.089	13.0/0.0	70.0	2.26	158	Btuh
20	Frame - Wood - Ext	0.089	13.0/0.0	73.1	2.26	165	Btuh
21	Frame - Wood - Ext	0.089	13.0/0.0	70.0	2.26	158	Btuh
22	Frame - Wood - Ext	0.089	13.0/0.0	84.0	2.26	190	Btuh
23	Frame - Wood - Ext	0.089	13.0/0.0	40.0	2.26	91	Btuh
24	Frame - Wood - Ext	0.089	13.0/0.0	63.3	2.26	143	Btuh
25	Frame - Wood - Ext	0.089	13.0/0.0	328.3	2.26	743	Btuh
26	Frame - Wood - Ext	0.089	13.0/0.0	101.7	2.26	230	Btuh
	Wall Total			2584 (sqft)		5612	Btuh

Doors	Type	Area (sqft)	HTM	Load	
1	Insulated - Exterior	48.0	13.8	662	Btuh
2	Insulated - Exterior	48.0	13.8	662	Btuh
3	Insulated - Garage	24.0	13.8	331	Btuh
4	Insulated - Exterior	48.0	13.8	662	Btuh
	Door Total	168 (sqft)		2318	Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load	
1	SnglAsmb no airsp/DarkShingle	0.034	30.0/0.0	2677.0	0.99	2640	Btuh
2	SnglAsmb no airsp/DarkShingle	0.034	30.0/0.0	346.0	0.99	341	Btuh
	Ceiling Total			3023 (sqft)		2981	Btuh

Floors	Type	R-Value	Size	HTM	Load	
1	Slab On Grade	0.0	2677 (ft-perimeter)	0.0	0	Btuh
2	Raised Wood - Adj	19.0	346 (sqft)	0.7	243	Btuh
	Floor Total		3023.0 (sqft)		243	Btuh

Envelope Subtotal:	19174	Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: IC Const. - Oaks Spec
Climate:FL_GAINESVILLE_REGIONAL_A

, FL

5/15/2026

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load	
	Natural	0.13	29538	1	62.7	1306	Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load	
		10	X 230	+	6900	9200	Btuh
					Sensible Envelope Load:	29680	Btuh
Duct load	Extremelysealed, Supply(R6.0-Condi),Return(R6.0-Condi)				(DGM of 0.000)	0	Btuh
					Sensible Load All Zones	**29680**	**Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
IC Const. - Oaks Spec

, FL

5/15/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**29680**	**Btuh**
	Sensible Duct Load	0	Btuh
	Total Sensible Zone Loads	**29680**	**Btuh**
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0	Btuh
	Blower	0	Btuh
	Total sensible gain	**29680**	**Btuh**
	Latent infiltration gain (for 51 gr. humidity difference)	2168	Btuh
	Latent ventilation gain	0	Btuh
	Latent duct gain	0	Btuh
	Latent occupant gain (10.0 people @ 200 Btuh per person)	2000	Btuh
	Latent other gain	0	Btuh
	Latent total gain	**4168**	**Btuh**
	TOTAL GAIN	**33848**	**Btuh**

EQUIPMENT

1. Central Unit	#	60000 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)

Version 8

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Project Title:
IC Const. - Oaks Spec
, FL Building Type: User

5/15/2026

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)
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 0.33	Vinyl	0.22	N	36.0	8.8	317 Btuh
2	2, NFRC 0.33	Vinyl	0.22	N	26.3	8.8	231 Btuh
3	2, NFRC 0.33	Vinyl	0.22	W	36.0	8.8	317 Btuh
4	2, NFRC 0.33	Vinyl	0.22	N	36.0	8.8	317 Btuh
5	2, NFRC 0.33	Vinyl	0.22	W	36.0	8.8	317 Btuh
6	2, NFRC 0.33	Vinyl	0.22	N	36.0	8.8	317 Btuh
7	2, NFRC 0.33	Vinyl	0.22	N	5.8	8.8	51 Btuh
8	2, NFRC 0.33	Vinyl	0.22	N	8.0	8.8	70 Btuh
9	2, NFRC 0.33	Vinyl	0.22	E	20.0	8.8	176 Btuh
10	2, NFRC 0.33	Vinyl	0.22	E	18.0	8.8	158 Btuh
11	2, NFRC 0.33	Vinyl	0.22	S	18.0	8.8	158 Btuh
12	2, NFRC 0.33	Vinyl	0.22	S	42.7	8.8	375 Btuh
13	2, NFRC 0.33	Vinyl	0.22	S	26.3	8.8	231 Btuh
14	2, NFRC 0.33	Vinyl	0.22	S	36.0	8.8	317 Btuh
15	2, NFRC 0.33	Vinyl	0.22	W	7.0	8.8	62 Btuh
16	2, NFRC 0.33	Vinyl	0.22	W	18.0	8.8	158 Btuh
17	2, NFRC 0.33	Vinyl	0.22	S	15.0	8.8	132 Btuh
	Window Total				421.0(sqft)		3705 Btuh

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	63	3.55	225 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	57	3.55	201 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	84	3.55	298 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	120	3.55	426 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	68	3.55	241 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	84	3.55	298 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	84	3.55	298 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	74	3.55	263 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	114	3.55	405 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	20	3.55	71 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	74	3.55	263 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	10	3.55	36 Btuh
13	Frame - Wood	- Ext	(0.089)	13.0/0.0	52	3.55	185 Btuh
14	Frame - Wood	- Ext	(0.089)	13.0/0.0	190	3.55	675 Btuh
15	Frame - Wood	- Ext	(0.089)	13.0/0.0	60	3.55	213 Btuh
16	Frame - Wood	- Ext	(0.089)	13.0/0.0	87	3.55	309 Btuh
17	Frame - Wood	- Adj	(0.089)	13.0/0.0	411	3.55	1459 Btuh
18	Frame - Wood	- Ext	(0.089)	13.0/0.0	102	3.55	362 Btuh
19	Frame - Wood	- Ext	(0.089)	13.0/0.0	70	3.55	249 Btuh
20	Frame - Wood	- Ext	(0.089)	13.0/0.0	73	3.55	259 Btuh
21	Frame - Wood	- Ext	(0.089)	13.0/0.0	70	3.55	249 Btuh
22	Frame - Wood	- Ext	(0.089)	13.0/0.0	84	3.55	298 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Project Title:
IC Const. - Oaks Spec
, FL Building Type: User

5/15/2026

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
23	Frame - Wood	- Ext	(0.089)	13.0/0.0	40	3.55	142 Btuh
24	Frame - Wood	- Ext	(0.089)	13.0/0.0	63	3.55	225 Btuh
25	Frame - Wood	- Ext	(0.089)	13.0/0.0	328	3.55	1166 Btuh
26	Frame - Wood	- Ext	(0.089)	13.0/0.0	102	3.55	361 Btuh
	Wall Total				2584(sqft)		9175 Btuh
Doors	Type	Storm	Ueff.		Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.460)		48	18.4	883 Btuh
2	Insulated - Exterior,	n	(0.460)		48	18.4	883 Btuh
3	Insulated - Garage,	n	(0.460)		24	18.4	442 Btuh
4	Insulated - Exterior,	n	(0.460)		48	18.4	883 Btuh
	Door Total				168(sqft)		3091Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
1	Single as/D/Shing		(0.034)	30.0/0.0	2677	1.4	3641 Btuh
2	Single as/D/Shing		(0.034)	30.0/0.0	346	1.4	471 Btuh
	Ceiling Total				3023(sqft)		4112Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	308.0 ft(perim.)	47.2	14538 Btuh
2	Raised Wood - Adj		(0.050)	19.0	346.0 sqft	2.0	694 Btuh
	Floor Total				3023 sqft		15232 Btuh
					Envelope Subtotal:		35314 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.17	29538	1.00	83.6	3667 Btuh
Duct load	Extremely sealed, R6.0, Supply(Con), Return(Con)				(DLM of 0.000)		0 Btuh
All Zones	**Sensible Subtotal All Zones**						**38981 Btuh**

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss		38981 Btuh
	Ventilation Sens. Heat Loss	(Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss		38981 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Project Title:
IC Const. - Oaks Spec
, FL Building Type: User

5/15/2026

EQUIPMENT

1. Electric Heat Pump	#	60000 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