

Residential System Sizing Calculation

Summary

Project Title:
 Chittum & Godden

, FL

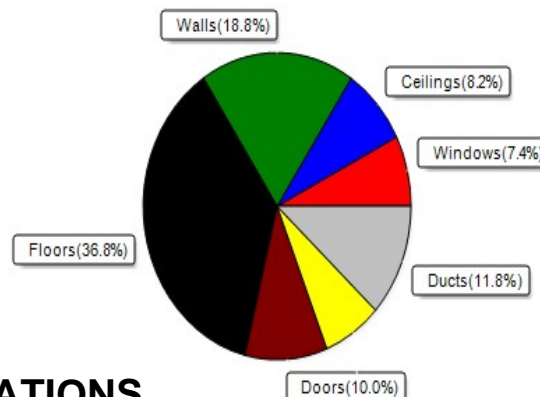
1/6/2026

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	26425	Btuh	Total cooling load calculation	22884	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	136.2	36000	Sensible (SHR = 0.75)	133.9	27000
Heat Pump + Auxiliary(0.0kW)	136.2	36000	Latent	331.0	9000
			Total (Electric Heat Pump)	157.3	36000

WINTER CALCULATIONS

Winter Heating Load (for 1706 sqft)

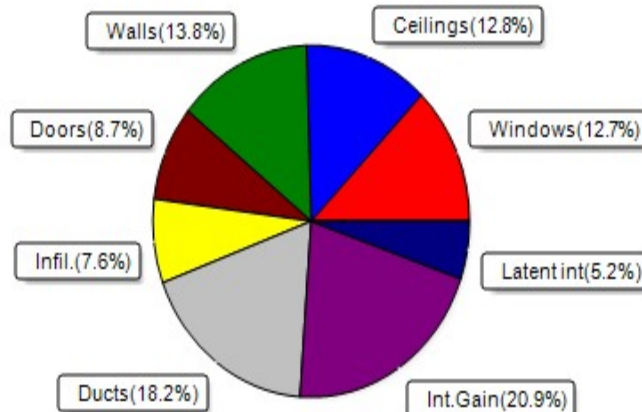
Load component	Load	
Window total	188 sqft	1955 Btuh
Wall total	1399 sqft	4967 Btuh
Door total	144 sqft	2650 Btuh
Ceiling total	1706 sqft	2173 Btuh
Floor total	1706 sqft	9723 Btuh
Infiltration	42 cfm	1844 Btuh
Duct loss		3112 Btuh
Subtotal		26425 Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS		26425 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1706 sqft)

Load component	Load	
Window total	188 sqft	2895 Btuh
Wall total	1399 sqft	3166 Btuh
Door total	144 sqft	1987 Btuh
Ceiling total	1706 sqft	2934 Btuh
Floor total		0 Btuh
Infiltration	32 cfm	657 Btuh
Internal gain		4780 Btuh
Duct gain		3744 Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load		0 Btuh
Total sensible gain		20164 Btuh
Latent gain(ducts)		429 Btuh
Latent gain(infiltration)		1090 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		1200 Btuh
Total latent gain		2719 Btuh
TOTAL HEAT GAIN		22884 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 1-6-26

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
Chittum & Godden

, FL

1/6/2026

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	0.20, 0.26	No	No	N	1.5ft	1.3ft	20.0	0.0	20.0	9	9	183	Btuh
2	2 NFRC	0.20, 0.26	No	No	E	1.5ft	1.3ft	10.0	0.0	10.0	9	24	242	Btuh
3	2 NFRC	0.20, 0.26	No	No	N	1.5ft	1.3ft	18.0	0.0	18.0	9	9	165	Btuh
4	2 NFRC	0.20, 0.26	No	No	E	1.5ft	1.3ft	15.0	0.0	15.0	9	24	363	Btuh
5	2 NFRC	0.20, 0.26	No	No	E	1.5ft	1.3ft	3.0	0.0	3.0	9	24	73	Btuh
6	2 NFRC	0.20, 0.26	No	No	S	1.5ft	1.3ft	72.0	72.0	0.0	9	11	659	Btuh
7	2 NFRC	0.20, 0.26	No	No	W	1.5ft	1.3ft	20.0	0.0	20.0	9	24	484	Btuh
8	2 NFRC	0.20, 0.26	No	No	W	1.5ft	1.3ft	30.0	0.0	30.0	9	24	727	Btuh
Window Total								188 (sqft)					2895 Btuh	
Walls	Type	U-Value	R-Value	Area(sqft)		HTM		Load						
				Cav/Sheath										
1	Frame - Wood - Ext	0.09	13.0/0.0	115.0		2.3		260 Btuh						
2	Frame - Wood - Ext	0.09	13.0/0.0	204.5		2.3		463 Btuh						
3	Frame - Wood - Ext	0.09	13.0/0.0	153.0		2.3		346 Btuh						
4	Frame - Wood - Ext	0.09	13.0/0.0	48.0		2.3		109 Btuh						
5	Frame - Wood - Ext	0.09	13.0/0.0	30.0		2.3		68 Btuh						
6	Frame - Wood - Ext	0.09	13.0/0.0	156.0		2.3		353 Btuh						
7	Frame - Wood - Ext	0.09	13.0/0.0	30.0		2.3		68 Btuh						
8	Frame - Wood - Ext	0.09	13.0/0.0	42.0		2.3		95 Btuh						
9	Frame - Wood - Ext	0.09	13.0/0.0	258.0		2.3		584 Btuh						
10	Frame - Wood - Ext	0.09	13.0/0.0	362.5		2.3		820 Btuh						
Wall Total				1399 (sqft)				3166 Btuh						
Doors	Type	Area (sqft)		HTM		Load								
1	Insulated - Exterior	24.0		13.8		331 Btuh								
2	Insulated - Exterior	24.0		13.8		331 Btuh								
3	Insulated - Exterior	48.0		13.8		662 Btuh								
4	Insulated - Exterior	48.0		13.8		662 Btuh								
Door Total		144 (sqft)				1987 Btuh								
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM		Load							
1	Vented Attic/DarkShingle	0.032	30.0/0.0	1706.0	1.72		2934 Btuh							
Ceiling Total				1706 (sqft)			2934 Btuh							
Floors	Type	R-Value		Size	HTM		Load							
1	Slab On Grade	0.0		1706 (ft-perimeter)	0.0		0 Btuh							
Floor Total				1706.0 (sqft)			0 Btuh							
Envelope Subtotal:											10983 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
 Chittum & Godden

, FL

1/6/2026

Infiltration	Type Natural	Average ACH 0.12	Volume(cuft) 15354	Wall Ratio 1	CFM= 31.5	Load 657 Btuh
Internal gain		Occupants 6	Btuh/occupant X 230	Appliance +	3400	Load 4780 Btuh
	Sensible Envelope Load:					16420 Btuh
Duct load	Extremely sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.228)					3744 Btuh
	Sensible Load All Zones					20164 Btuh

Manual J Summer Calculations Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Chittum & Godden

, FL

1/6/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	16420 Btuh
	Sensible Duct Load	3744 Btuh
	Total Sensible Zone Loads	20164 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	20164 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1090 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	429 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	2719 Btuh
	TOTAL GAIN	22884 Btuh

EQUIPMENT

1. Central Unit	#	36000 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(1/2))
 (Ornt - compass orientation)



Version 8

System Sizing Calculations - Winter Residential Load - Whole House Component Details

, FL

Project Title:
Chittum & Godden
Building Type: User

1/6/2026

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 0.20	Vinyl	0.26	N	20.0		10.4	208 Btuh
2	2, NFRC 0.20	Vinyl	0.26	E	10.0		10.4	104 Btuh
3	2, NFRC 0.20	Vinyl	0.26	N	18.0		10.4	187 Btuh
4	2, NFRC 0.20	Vinyl	0.26	E	15.0		10.4	156 Btuh
5	2, NFRC 0.20	Vinyl	0.26	E	3.0		10.4	31 Btuh
6	2, NFRC 0.20	Vinyl	0.26	S	72.0		10.4	749 Btuh
7	2, NFRC 0.20	Vinyl	0.26	W	20.0		10.4	208 Btuh
8	2, NFRC 0.20	Vinyl	0.26	W	30.0		10.4	312 Btuh
Window Total					188.0(sqft)			1955 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	115		3.55	408 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	205		3.55	726 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	153		3.55	543 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	48		3.55	170 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	30		3.55	107 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	156		3.55	554 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	30		3.55	107 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	42		3.55	149 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	258		3.55	916 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	363		3.55	1287 Btuh
Wall Total					1399(sqft)			4967 Btuh
Doors	Type	Storm	Ueff.	R-Value	Area	X	HTM=	Load
1	Insulated - Exterior,	n	(0.460)		24		18.4	442 Btuh
2	Insulated - Exterior,	n	(0.460)		24		18.4	442 Btuh
3	Insulated - Exterior,	n	(0.460)		48		18.4	883 Btuh
4	Insulated - Exterior,	n	(0.460)		48		18.4	883 Btuh
Door Total					144(sqft)			2650Btuh
Ceilings	Type/Color/Surface	Ueff.	R-Value	Area	X	HTM=	Load	
1	Flat ceil/D/Shing	(0.032)	30.0/0.0	1706		1.3	2173 Btuh	
Ceiling Total					1706(sqft)			2173Btuh
Floors	Type	Ueff.	R-Value	Size	X	HTM=	Load	
1	Slab On Grade	(1.180)	0.0	206.0 ft(perim.)		47.2	9723 Btuh	
Floor Total					1706 sqft			9723 Btuh
Envelope Subtotal:								21468 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	CFM=	Load	
	Natural	0.16	15354	1.00	42.0		1844 Btuh	

Manual J Winter Calculations Residential Load - Component Details (continued)

, FL

Project Title:
Chittum & Godden
Building Type: User

1/6/2026

Duct load	Extremely sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.133)	3112 Btuh
All Zones	Sensible Subtotal All Zones	26425 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	26425 Btuh 0 Btuh 26425 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	36000 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