

Residential System Sizing Calculation

Summary

Gregory & Barbara Lussier
2178 SW Brim Street
Lake City, FL 32024

Project Title:
Lussier Addition

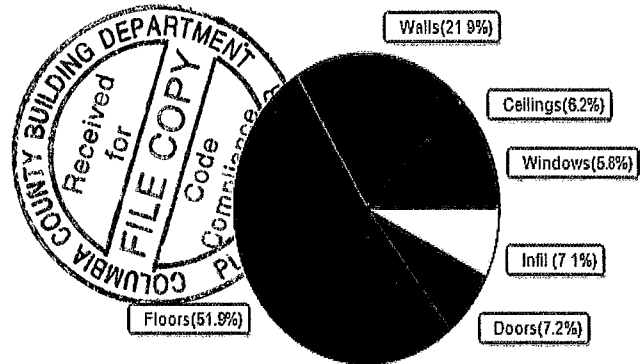
11/20/2025

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 9476 Btuh	Total cooling load calculation 5849 Btuh
Submitted heating capacity % of calc Btuh	Submitted cooling capacity % of calc Btuh
Total (Electric Heat Pump) 409.4 38793	Sensible (SHR = 0.75) 422.9 21124
Heat Pump + Auxiliary(0.0kW) 409.4 38793	Latent 823.8 7041
	Total (Electric Heat Pump) 481.5 28165

WINTER CALCULATIONS

Winter Heating Load (for 567 sqft)

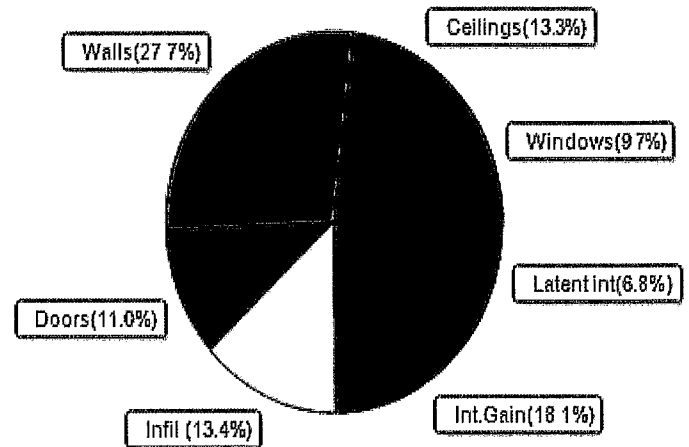
Load component		Load
Window total	41 sqft	546 Btuh
Wall total	631 sqft	2072 Btuh
Door total	40 sqft	681 Btuh
Ceiling total	624 sqft	586 Btuh
Floor total	567 sqft	4919 Btuh
Infiltration	17 cfm	672 Btuh
Duct loss		0 Btuh
Subtotal		9476 Btuh
Ventilation Ex 0 cfm, Sup 0 cfm		0 Btuh
TOTAL HEAT LOSS		9476 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 567 sqft)

Load component		Load
Window total	41 sqft	570 Btuh
Wall total	631 sqft	1618 Btuh
Door total	40 sqft	644 Btuh
Ceiling total	624 sqft	776 Btuh
Floor total		0 Btuh
Infiltration	12 cfm	327 Btuh
Internal gain		1060 Btuh
Duct gain		0 Btuh
Sens. Ventilation Ex:0 cfm; Sup:0 cfm		0 Btuh
Blower Load		0 Btuh
Total sensible gain		4995 Btuh
Latent gain(ducts)		0 Btuh
Latent gain(infiltration)		455 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		400 Btuh
Total latent gain		855 Btuh
TOTAL HEAT GAIN		5849 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: Will C. Fry

DATE: 11/20/2025

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Gregory & Barbara Lussier
 2178 SW Brim Street
 Lake City, FL 32024

Project Title:
 Lussier Addition
 Building Type: User

11/20/2025

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	N	26.0		13.3 346 Btuh
2	2, NFRC 0.25	Vinyl	0.36	N	15.0		13.3 200 Btuh
	Window Total					41.0(sqft)	546 Btuh
Walls	Type	Ornt.	Ueff	R-Value (Cav/Sh)	Area	X	HTM= Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	235		3.28 772 Btuh
2	Frame - Wood	- Adj	(0.089)	13.0/0.0	116		3.28 381 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	208		3.28 683 Btuh
4	Frame - Wood	- Adj	(0.089)	13.0/0.0	40		3.28 131 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	32		3.28 105 Btuh
	Wall Total					631(sqft)	2072 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM= Load
1	Insulated - Exterior,	n	(0.460)		20		17.0 340 Btuh
2	Insulated - Garage,	n	(0.460)		20		17.0 340 Btuh
	Door Total					40(sqft)	681 Btuh
Ceilings	Type/Color/Surface	Ueff	R-Value		Area	X	HTM= Load
1	Flat ceil/D/Metal	(0.025)	38.0/0.0		624		0.94 586 Btuh
	Ceiling Total					624(sqft)	586 Btuh
Floors	Type	Ueff.	R-Value		Size	X	HTM= Load
1	Slab On Grade	(1.180)	0.0		112.7 ft(perim.)		43.7 4919 Btuh
	Floor Total					567 sqft	4919 Btuh
Envelope Subtotal							8804 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM= Load	
	Natural		0.22	4536	1.00	16.6 672 Btuh	
Duct load	NA, R0.0, Supply(), Return() (DLM of 0.000)					0 Btuh	
All Zones	Sensible Subtotal All Zones						9476 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Gregory & Barbara Lussier
 2178 SW Brim Street
 Lake City, FL 32024

Project Title:
 Lussier Addition
 Building Type: User

11/20/2025

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex.0 cfm, Sup:0 cfm) Total Heat Loss	9476 Btuh 0 Btuh 9476 Btuh
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EQUIPMENT

1 Electric Heat Pump	#	38793 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

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Gregory & Barbara Lussier
2178 SW Brim Street
Lake City, FL 32024

Project Title:
Lussier Addition

11/20/2025

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*					Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded		Unshaded
1	2 NFRC	0.25	0.36	No	No	N	1.5ft	0.5ft	26.0	0.0	26.0	14	14	361 Btuh
2	2 NFRC	0.25	0.36	No	No	N	1.5ft	0.5ft	15.0	0.0	15.0	14	14	208 Btuh
Window Total									41 (sqft)					570 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)			HTM		Load			
				Cav/Sheath										
1	Frame - Wood - Ext	0.09		13.0	0/0	235.0			2.7		636 Btuh			
2	Frame - Wood - Adj	0.09		13.0	0/0	116.0			2.1		247 Btuh			
3	Frame - Wood - Ext	0.09		13.0	0/0	208.0			2.7		563 Btuh			
4	Frame - Wood - Adj	0.09		13.0	0/0	40.0			2.1		85 Btuh			
5	Frame - Wood - Ext	0.09		13.0	0/0	32.0			2.7		87 Btuh			
Wall Total									631 (sqft)					1618 Btuh
Doors	Type	Area (sqft)			HTM		Load							
1	Insulated - Exterior	20.0			16.1		322 Btuh							
2	Insulated - Garage	20.0			16.1		322 Btuh							
Door Total		40 (sqft)					644 Btuh							
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM		Load							
1	Vented Attic/DarkMetal/RB	0.025	38.0/0.0	623.7	1.24		776 Btuh							
Ceiling Total				624 (sqft)			776 Btuh							
Floors	Type	R-Value		Size	HTM		Load							
1	Slab On Grade	0.0		567 (ft-perimeter)	0.0		0 Btuh							
Floor Total				567.0 (sqft)			0 Btuh							
Envelope Subtotal											3608 Btuh			
Infiltration	Type	Average ACH		Volume(cuft)	Wall Ratio	CFM=	Load							
	Natural	0.16		4536	1	12.4	327 Btuh							
Internal gain	Occupants	Btuh/occupant		Appliance		Load								
	2	X	230	+	600	1060 Btuh								
Sensible Envelope Load											4995 Btuh			
Duct load	NA, Supply(R0 0-None), Return(R0 0-None) (DGM of 0.000)										0 Btuh			
Sensible Load All Zones											4995 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

Gregory & Barbara Lussier
2178 SW Brim Street
Lake City, FL 32024

Project Title: Climate.FL_GAINESVILLE_REGIONAL_A
Lussier Addition

11/20/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	4995 Btuh
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	4995 Btuh
	Sensible ventilation (Ex:0 cfm, Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	4995 Btuh
	Latent infiltration gain (for 54 gr humidity difference)	455 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (2.0 people @ 200 Btuh per person)	400 Btuh
	Latent other gain	0 Btuh
	Latent total gain	855 Btuh
	TOTAL GAIN	5849 Btuh

EQUIPMENT

1 Central Unit	#	28165 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