

Residential System Sizing Calculation

Summary

Project Title:
Pasternak Residence

, FL

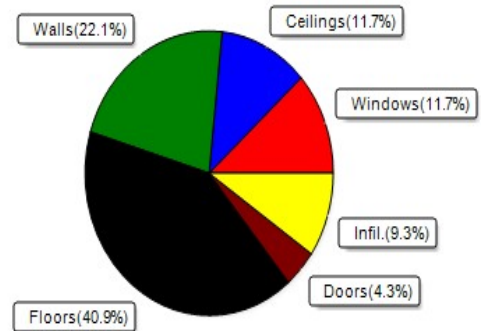
8/7/2026

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	25403	Btuh	Total cooling load calculation	22143	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	189.0	48000	Sensible (SHR = 0.75)	188.0	36000
Heat Pump + Auxiliary(0.0kW)	189.0	48000	Latent	400.1	12000
			Total (Electric Heat Pump)	216.8	48000

WINTER CALCULATIONS

Winter Heating Load (for 2189 sqft)

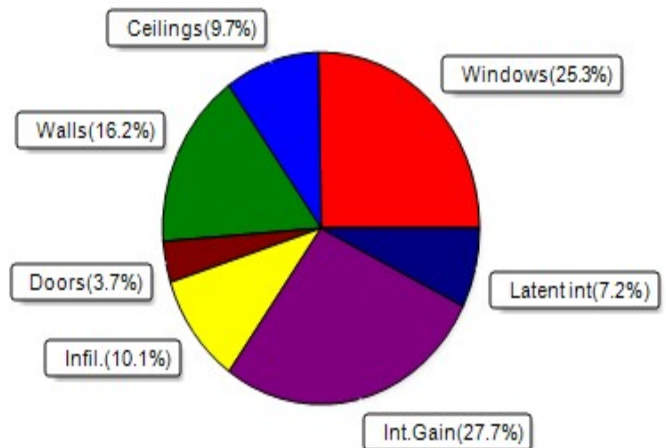
Load component	Load
Window total 336 sqft	2960 Btuh
Wall total 1581 sqft	5612 Btuh
Door total 60 sqft	1104 Btuh
Ceiling total 2189 sqft	2977 Btuh
Floor total 2189 sqft	10384 Btuh
Infiltration 54 cfm	2367 Btuh
Duct loss	0 Btuh
Subtotal	25403 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	25403 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2189 sqft)

Load component	Load
Window total 336 sqft	5597 Btuh
Wall total 1581 sqft	3578 Btuh
Door total 60 sqft	828 Btuh
Ceiling total 2189 sqft	2158 Btuh
Floor total	0 Btuh
Infiltration 40 cfm	843 Btuh
Internal gain	6140 Btuh
Duct gain	0 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	19144 Btuh
Latent gain(ducts)	0 Btuh
Latent gain(infiltration)	1399 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	1600 Btuh
Total latent gain	2999 Btuh
TOTAL HEAT GAIN	22143 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 8-7-26

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
Pasternak Residence

, FL

8/7/2026

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	2.3ft.	1.5ft.	30.0	0.0	30.0	11	11	334	Btuh	
2	2 NFRC	0.33	0.22	No	No	N	2.3ft.	15.5f	54.0	0.0	54.0	11	11	601	Btuh	
3	2 NFRC	0.33	0.22	No	No	N	2.3ft.	10.5f	16.0	0.0	16.0	11	11	178	Btuh	
4	2 NFRC	0.33	0.22	No	No	E	2.3ft.	1.5ft.	16.0	1.7	14.3	11	36	532	Btuh	
5	2 NFRC	0.33	0.22	No	No	E	1.3ft.	1.5ft.	30.0	0.0	30.0	11	36	1080	Btuh	
6	2 NFRC	0.33	0.22	No	No	S	1.3ft.	1.5ft.	72.0	72.0	0.0	11	14	801	Btuh	
7	2 NFRC	0.33	0.22	No	No	S	2.3ft.	6.2ft.	13.3	13.3	0.0	11	14	148	Btuh	
8	2 NFRC	0.33	0.22	No	No	S	1.3ft.	1.5ft.	72.0	72.0	0.0	11	14	801	Btuh	
9	2 NFRC	0.33	0.22	No	No	W	1.3ft.	1.5ft.	3.0	0.0	3.0	11	36	108	Btuh	
10	2 NFRC	0.33	0.22	No	No	W	2.3ft.	1.5ft.	30.0	2.6	27.4	11	36	1015	Btuh	
	Window Total									336 (sqft)					5597	Btuh
Walls	Type						U-Value	R-Value	Area(sqft)			HTM		Load		
								Cav/Sheath								
	1	Frame - Wood - Ext					0.089	13.0/0.0	111.0			2.26		251	Btuh	
	2	Frame - Wood - Ext					0.089	13.0/0.0	90.0			2.26		204	Btuh	
	3	Frame - Wood - Ext					0.089	13.0/0.0	169.0			2.26		383	Btuh	
	4	Frame - Wood - Ext					0.089	13.0/0.0	45.0			2.26		102	Btuh	
	5	Frame - Wood - Ext					0.089	13.0/0.0	119.0			2.26		269	Btuh	
	6	Frame - Wood - Ext					0.089	13.0/0.0	285.0			2.26		645	Btuh	
	7	Frame - Wood - Ext					0.089	13.0/0.0	162.0			2.26		367	Btuh	
	8	Frame - Wood - Ext					0.089	13.0/0.0	27.0			2.26		61	Btuh	
	9	Frame - Wood - Ext					0.089	13.0/0.0	20.7			2.26		47	Btuh	
	10	Frame - Wood - Ext					0.089	13.0/0.0	27.0			2.26		61	Btuh	
	11	Frame - Wood - Ext					0.089	13.0/0.0	162.0			2.26		367	Btuh	
	12	Frame - Wood - Ext					0.089	13.0/0.0	363.0			2.26		822	Btuh	
	Wall Total									1581 (sqft)					3578	Btuh
Doors	Type						Area (sqft)			HTM		Load				
	1	Insulated - Exterior					20.0			13.8		276	Btuh			
	2	Insulated - Exterior					20.0			13.8		276	Btuh			
	3	Insulated - Exterior					20.0			13.8		276	Btuh			
		Door Total									60 (sqft)					828
Ceilings	Type/Color/Surface						U-Value	R-Value	Area(sqft)			HTM		Load		
	1	SnglAsmb no airsp/DarkShingle					0.034	30.0/0.0	2189.0			0.99		2158	Btuh	
		Ceiling Total									2189 (sqft)					2158
Floors	Type						R-Value			Size			HTM		Load	
	1	Slab On Grade					0.0			2189 (ft-perimeter)			0.0		0	Btuh
		Floor Total									2189.0 (sqft)					0
	Envelope Subtotal:													12161		Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Pasternak Residence

, FL

8/7/2026

Infiltration	Type Natural	Average ACH 0.12	Volume(cuft) 19701	Wall Ratio 1	CFM= 40.5	Load 843 Btuh
Internal gain		Occupants 8	Btuh/occupant X 230	Appliance +	4300	Load 6140 Btuh
	Sensible Envelope Load:					19144 Btuh
Duct load	Extremelysealed, Supply(R6.0-Cond), Return(R6.0-Cond) (DGM of 0.000)					0 Btuh
	Sensible Load All Zones					19144 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Pasternak Residence

, FL

8/7/2026

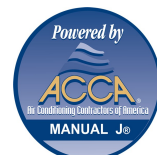
WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	19144 Btuh
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	19144 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	19144 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1399 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	2999 Btuh
	TOTAL GAIN	22143 Btuh

EQUIPMENT

1. Central Unit	#	48000 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

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Project Title:
Pasternak Residence
Building Type: User

, FL

8/7/2026

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	30.0		8.8	264 Btuh
2	2, NFRC 0.33	Vinyl	0.22	N	54.0		8.8	475 Btuh
3	2, NFRC 0.33	Vinyl	0.22	N	16.0		8.8	141 Btuh
4	2, NFRC 0.33	Vinyl	0.22	E	16.0		8.8	141 Btuh
5	2, NFRC 0.33	Vinyl	0.22	E	30.0		8.8	264 Btuh
6	2, NFRC 0.33	Vinyl	0.22	S	72.0		8.8	634 Btuh
7	2, NFRC 0.33	Vinyl	0.22	S	13.3		8.8	117 Btuh
8	2, NFRC 0.33	Vinyl	0.22	S	72.0		8.8	634 Btuh
9	2, NFRC 0.33	Vinyl	0.22	W	3.0		8.8	26 Btuh
10	2, NFRC 0.33	Vinyl	0.22	W	30.0		8.8	264 Btuh
Window Total					336.3(sqft)			2960 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	111		3.55	394 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	90		3.55	320 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	169		3.55	600 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	45		3.55	160 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	119		3.55	422 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	285		3.55	1012 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	162		3.55	575 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	27		3.55	96 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	21		3.55	73 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	27		3.55	96 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	162		3.55	575 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	363		3.55	1289 Btuh
Wall Total					1581(sqft)			5612 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
2	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
3	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
Door Total					60(sqft)			1104Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Single as/D/Shing		(0.034)	30.0/0.0	2189		1.4	2977 Btuh
Ceiling Total					2189(sqft)			2977Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	220.0 ft(perim.)		47.2	10384 Btuh
Floor Total					2189 sqft			10384 Btuh
Envelope Subtotal:								23037 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

, FL

Project Title:
Pasternak Residence
Building Type: User

8/7/2026

Infiltration	Type Natural	Wholehouse ACH 0.16	Volume(cuft) 19701	Wall Ratio 1.00	CFM= 54.0	2367 Btuh
Duct load	Extremely sealed, R6.0, Supply(Con), Return(Con) (DLM of 0.000)					0 Btuh
All Zones	Sensible Subtotal All Zones					25403 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	25403 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	25403 Btuh

EQUIPMENT

1. Electric Heat Pump	#	48000 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