

Residential System Sizing Calculation

Summary

Yasmanis
912 NW Fairway Drive
Lake City, FL 32055

Project Title:
912 NW Fairway Drive

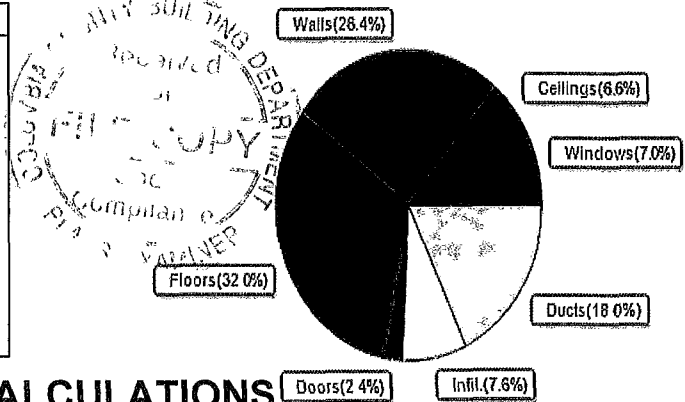
1/22/2025

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	28394 Btuh	Total cooling load calculation	25946 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	107.5 30533	Sensible (SHR = 0.75)	82.0 17614
Heat Pump + Auxiliary(0.0kW)	107.5 30533	Latent	131.9 5871
		Total (Electric Heat Pump)	90.5 23485

WINTER CALCULATIONS

Winter Heating Load (for 1826 sqft)

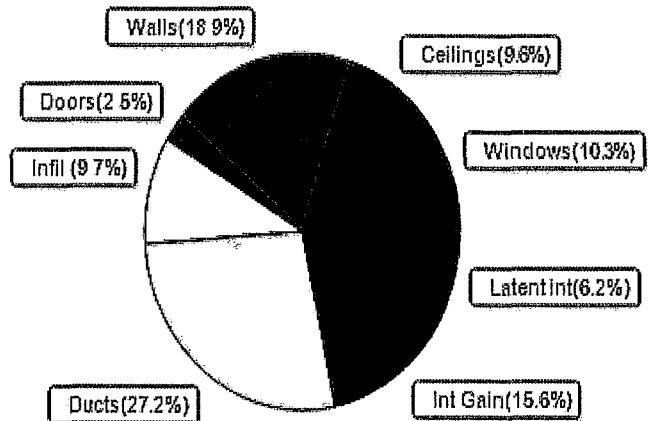
Load component		Load	
Window total	148 sqft	1977 Btuh	
Wall total	1473 sqft	7484 Btuh	
Door total	40 sqft	681 Btuh	
Ceiling total	2009 sqft	1886 Btuh	
Floor total	1826 sqft	9081 Btuh	
Infiltration	53 cfm	2164 Btuh	
Duct loss		5120 Btuh	
Subtotal		28394 Btuh	
Ventilation	Ex:0 cfm; Sup 0 cfm	0 Btuh	
TOTAL HEAT LOSS		28394 Btuh	



SUMMER CALCULATIONS

Summer Cooling Load (for 1826 sqft)

Load component		Load	
Window total	148 sqft	2678 Btuh	
Wall total	1473 sqft	4909 Btuh	
Door total	40 sqft	644 Btuh	
Ceiling total	2009 sqft	2498 Btuh	
Floor total		0 Btuh	
Infiltration	40 cfm	1053 Btuh	
Internal gain		4040 Btuh	
Duct gain		5671 Btuh	
Sens. Ventilation	Ex:0 cfm; Sup:0 cfm	0 Btuh	
Blower Load		0 Btuh	
Total sensible gain		21493 Btuh	
Latent gain(ducts)		1388 Btuh	
Latent gain(infiltration)		1464 Btuh	
Latent gain(ventilation)		0 Btuh	
Latent gain(internal/occupants/other)		1600 Btuh	
Total latent gain		4453 Btuh	
TOTAL HEAT GAIN		25946 Btuh	



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____ 01/22/2025

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Yasmanis
912 NW Fairway Drive
Lake City, FL 32055

Project Title:
912 NW Fairway Drive
Building Type: User

1/22/2025

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	S	15.0		13.3	200 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	15.0		13.3	200 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	15.0		13.3	200 Btuh
4	2, NFRC 0.25	Vinyl	0.36	E	4.7		13.3	63 Btuh
5	2, NFRC 0.25	Vinyl	0.36	E	15.0		13.3	200 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	15.0		13.3	200 Btuh
7	2, NFRC 0.25	TIM	0.36	N	40.0		13.3	533 Btuh
8	2, NFRC 0.25	Vinyl	0.36	N	9.0		13.3	120 Btuh
9	2, NFRC 0.25	Vinyl	0.36	N	4.7		13.3	63 Btuh
10	2, NFRC 0.25	Vinyl	0.36	W	15.0		13.3	200 Btuh
Window Total					148.4(sqft)			1977 Btuh
Walls	Type	Ornt	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	84		5.44	455 Btuh
2	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	44		5.44	239 Btuh
3	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	33		5.44	180 Btuh
4	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	40		5.44	218 Btuh
5	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	108		5.44	586 Btuh
6	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	319		5.44	1735 Btuh
7	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	108		5.44	586 Btuh
8	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	59		5.44	319 Btuh
9	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	56		5.44	305 Btuh
10	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	261		5.44	1420 Btuh
11	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	117		5.44	637 Btuh
12	Frame - Wood - Adj		(0.089)	13.0/0.0	155		3.28	508 Btuh
13	Frame - Wood - Adj		(0.089)	13.0/0.0	91		3.28	298 Btuh
Wall Total					1473(sqft)			7484 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
2	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
Door Total					40(sqft)			681Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	2009		0.94	1886 Btuh
Ceiling Total					2009(sqft)			1886Btuh
Floors	Type		Ueff	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	208.0 ft(perim)		43.7	9081 Btuh
Floor Total					1826 sqft			9081 Btuh
Envelope Subtotal:								21109 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Yasmanis
912 NW Fairway Drive
Lake City, FL 32055

Project Title:
912 NW Fairway Drive
Building Type: User

1/22/2025

Infiltration	Type Natural	Wholehouse ACH 0.22	Volume(cuft) 14608	Wall Ratio 1.00	CFM= 53.4	2164 Btuh
Duct load	Average sealed, R6 0, Supply(Att), Return(Att) (DLM of 0.220)					5120 Btuh
All Zones	Sensible Subtotal All Zones					28394 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	28394 Btuh
	Ventilation Sens. Heat Loss (Ex 0 cfm, Sup 0 cfm)	0 Btuh
	Total Heat Loss	28394 Btuh

EQUIPMENT

1 Electric Heat Pump	#	30533 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

Yasmanis
912 NW Fairway Drive
Lake City, FL 32055

Project Title.
912 NW Fairway Drive

1/22/2025

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	Ormt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded			
1	2 NFRC	0.25, 0.36	No	No	S		1.5ft	1.0ft	15.0	15.0	0.0	14	16	208	Btuh	
2	2 NFRC	0.25, 0.36	No	No	S		1.5ft	1.0ft	15.0	15.0	0.0	14	16	208	Btuh	
3	2 NFRC	0.25, 0.36	No	No	S		1.5ft	1.0ft	15.0	15.0	0.0	14	16	208	Btuh	
4	2 NFRC	0.25, 0.36	No	No	E		1.5ft	1.0ft	4.7	0.5	4.2	14	33	144	Btuh	
5	2 NFRC	0.25, 0.36	No	No	E		1.5ft	1.0ft	15.0	0.7	14.3	14	33	477	Btuh	
6	2 NFRC	0.25, 0.36	No	No	N		1.5ft	1.0ft	15.0	0.0	15.0	14	14	208	Btuh	
7	2 NFRC	0.25, 0.36	No	No	N		8.5ft	1.0ft	40.0	0.0	40.0	14	14	556	Btuh	
8	2 NFRC	0.25, 0.36	No	No	N		1.5ft	1.0ft	9.0	0.0	9.0	14	14	125	Btuh	
9	2 NFRC	0.25, 0.36	No	No	N		1.5ft	1.0ft	4.7	0.0	4.7	14	14	65	Btuh	
10	2 NFRC	0.25, 0.36	No	No	W		1.5ft	1.0ft	15.0	0.7	14.3	14	33	477	Btuh	
	Window Total									148 (sqft)					2678	Btuh
Walls	Type						U-Value	R-Value	Area(sqft)			HTM		Load		
								Cav/Sheath								
1	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	83.7			3.6		299 Btuh		
2	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	44.0			3.6		157 Btuh		
3	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	33.0			3.6		118 Btuh		
4	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	40.0			3.6		143 Btuh		
5	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	107.6			3.6		385 Btuh		
6	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	319.0			3.6		1140 Btuh		
7	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	107.7			3.6		385 Btuh		
8	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	58.7			3.6		210 Btuh		
9	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	56.0			3.6		200 Btuh		
10	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	261.0			3.6		932 Btuh		
11	Concrete Blk,Hollow- Ext						0.15	4.2/0.0	117.0			3.6		418 Btuh		
12	Frame - Wood - Adj						0.09	13.0/0.0	154.7			2.1		329 Btuh		
13	Frame - Wood - Adj						0.09	13.0/0.0	90.7			2.1		193 Btuh		
	Wall Total									1473 (sqft)					4909	Btuh
Doors	Type						Area (sqft)			HTM		Load				
1	Insulated - Exterior						20.0			16.1		322 Btuh				
2	Insulated - Exterior						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/DarkShingle/RB						0.025	38.0/0.0	2008.6			1.24		2498 Btuh		
	Ceiling Total									2009 (sqft)					2498	Btuh
Floors	Type						R-Value		Size			HTM		Load		
1	Slab On Grade						0.0		1826 (ft-perimeter)			0.0		0 Btuh		
	Floor Total									1826.0 (sqft)					0	Btuh
	Envelope Subtotal:													10729 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Yasmanis
912 NW Fairway Drive
Lake City, FL 32055

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
912 NW Fairway Drive

1/22/2025

Infiltration	Type Natural	Average ACH 0.16	Volume(cuft) 14608	Wall Ratio 1	CFM= 40.1	Load 1053 Btuh
Internal gain		Occupants 8	Btuh/occupant X 230	Appliance +	2200	Load 4040 Btuh
					Sensible Envelope Load	15822 Btuh
Duct load	Average sealed, Supply(R6 0-Attic), Return(R6 0-Attic)				(DGM of 0.358)	5671 Btuh
					Sensible Load All Zones	21493 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Yasmanis
912 NW Fairway Drive
Lake City, FL 32055

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
912 NW Fairway Drive

1/22/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	15822 Btuh
	Sensible Duct Load	5671 Btuh
	Total Sensible Zone Loads	21493 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	21493 Btuh
	Latent infiltration gain (for 54 gr. humidity difference)	1464 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1388 Btuh
	Latent occupant gain (8 0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4453 Btuh
	TOTAL GAIN	25946 Btuh

EQUIPMENT

1 Central Unit	#	23485 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