

Residential System Sizing Calculation

Summary

Yasmanis
188 SW Birch Glen
Lake City, FL 32024

Project Title:
188 SW Birch Glen

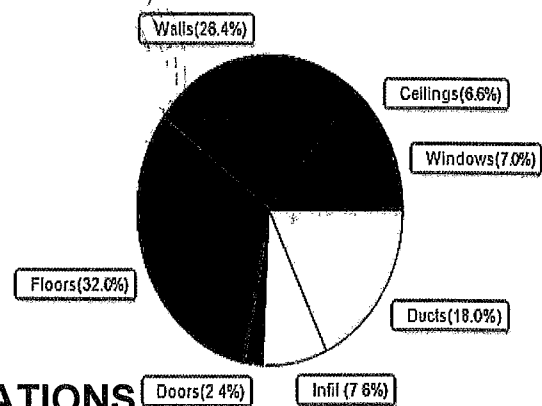
1/22/2025

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)

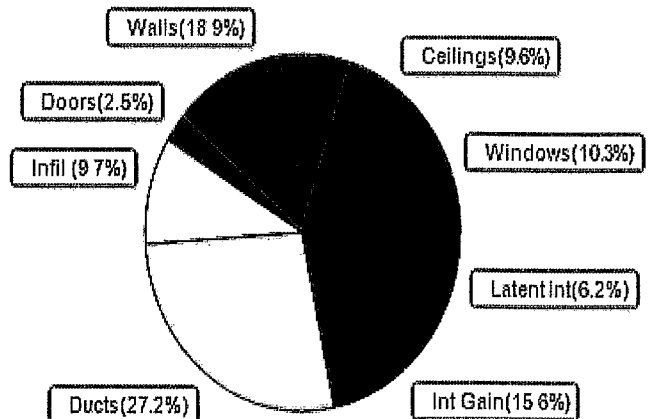
Load component		Load	
Window total	148 sqft	1977	Btuh
Wall total	1473 sqft	7484	Btuh
Door total	40 sqft	681	Btuh
Ceiling total	2009 sqft	1886	Btuh
Floor total	1826 sqft	9081	Btuh
Infiltration	53 cfm	2164	Btuh
Duct loss		5120	Btuh
Subtotal		28394	Btuh
Ventilation Ex 0 cfm, Sup:0 cfm		0	Btuh
TOTAL HEAT 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
188 SW Birch Glen
Lake City, FL 32024

Project Title:
188 SW Birch Glen
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)			681 Btuh
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)			1886 Btuh
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
188 SW Birch Glen
Lake City, FL 32024

Project Title:
188 SW Birch Glen
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
----------------------	---	------------

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
188 SW Birch Glen
Lake City, FL 32024

Project Title:
188 SW Birch Glen

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	Ornt	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					
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 AtticDarkShingle/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
188 SW Birch Glen
Lake City, FL 32024

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
188 SW Birch Glen

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
188 SW Birch Glen
Lake City, FL 32024

Project Title
188 SW Birch Glen

Climate: FL_GAINESVILLE_REGIONAL_A

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
----------------	---	------------

*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