

Residential System Sizing Calculation

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Summary

Yasmanis Reyes
NW Crews Glen
, FL 32024

Project Title:
Yasmanis Reyes_

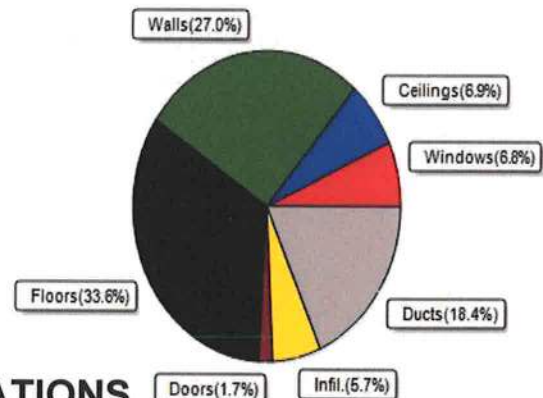
6/22/2023

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 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	21945 Btuh	Total cooling load calculation	16901 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 21945	Sensible (SHR = 0.70)	85.2 11831
Heat Pump + Auxiliary(0.0kW)	100.0 21945	Latent	168.3 5070
		Total (Electric Heat Pump)	100.0 16901

WINTER CALCULATIONS

Winter Heating Load (for 1365 sqft)

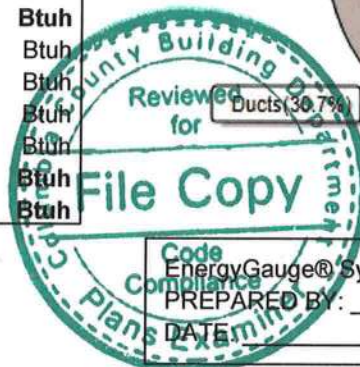
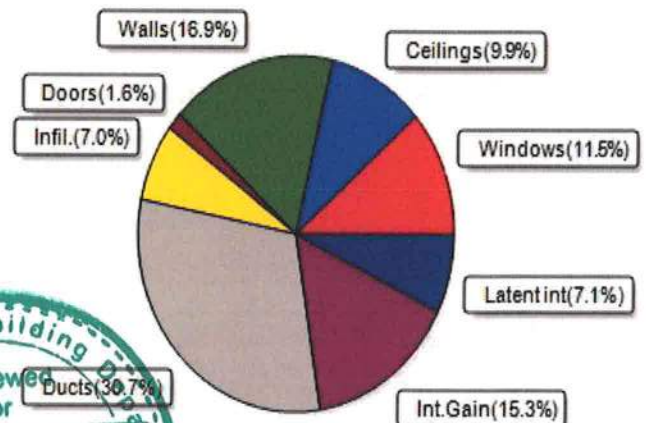
Load component		Load	
Window total	104 sqft	1493	Btuh
Wall total	1124 sqft	5917	Btuh
Door total	20 sqft	368	Btuh
Ceiling total	1501 sqft	1524	Btuh
Floor total	1365 sqft	7363	Btuh
Infiltration	29 cfm	1249	Btuh
Duct loss		4031	Btuh
Subtotal		21945	Btuh
Ventilation	Ex:0 cfm; Sup:0 cfm	0	Btuh
TOTAL HEAT LOSS		21945	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1365 sqft)

Load component		Load	
Window total	104 sqft	1943	Btuh
Wall total	1124 sqft	2855	Btuh
Door total	20 sqft	276	Btuh
Ceiling total	1501 sqft	1676	Btuh
Floor total		0	Btuh
Infiltration	21 cfm	445	Btuh
Internal gain		2580	Btuh
Duct gain		4112	Btuh
Sens. Ventilation	Ex:0 cfm; Sup:0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		13888	Btuh
Latent gain(ducts)		1075	Btuh
Latent gain(infiltration)		739	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		3013	Btuh
TOTAL HEAT GAIN		16901	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY:

DATE:

6 / 22 / 2023

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Yasmanis Reyes
NW Crews Glen
, FL 32024

Project Title:
Yasmanis Reyes_
Building Type: User

6/22/2023

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 0.25	Vinyl	0.36	W	30.0		14.4	432 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	15.0		14.4	216 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	2.7		14.4	38 Btuh
4	2, NFRC 0.25	Vinyl	0.36	E	6.0		14.4	86 Btuh
5	2, NFRC 0.25	TIM	0.36	E	20.0		14.4	288 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	30.0		14.4	432 Btuh
	Window Total				103.7(sqft)			1493 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	190		5.26	1000 Btuh
2	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	366		5.26	1928 Btuh
3	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	122		5.26	642 Btuh
4	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	43		5.26	225 Btuh
5	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	92		5.26	484 Btuh
6	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	311		5.26	1638 Btuh
	Wall Total				1124(sqft)			5917 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		18.4	368 Btuh
	Door Total				20(sqft)			368Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/M/Shing		(0.025)	38.0/0.0	1501		1.0	1524 Btuh
	Ceiling Total				1501(sqft)			1524Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	156.0 ft(perim.)		47.2	7363 Btuh
	Floor Total				1365 sqft			7363 Btuh
	Envelope Subtotal:							16665 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.16	10920	1.00	28.5		1249 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.225)							4031 Btuh
All Zones	Sensible Subtotal All Zones							21945 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Yasmanis Reyes
NW Crews Glen
, FL 32024

Project Title:
Yasmanis Reyes_
Building Type: User

6/22/2023

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	21945 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	21945 Btuh

EQUIPMENT

1. Electric Heat Pump	#	21945 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 Reyes
NW Crews Glen
, FL 32024

Project Title:
Yasmanis Reyes_

6/22/2023

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	0.25, 0.36	No	No	No	W	1.5ft.	0.5ft.	30.0	4.5	25.5	12	31	844	Btuh	
2	2 NFRC	0.25, 0.36	No	No	No	S	1.5ft.	0.5ft.	15.0	15.0	0.0	12	14	181	Btuh	
3	2 NFRC	0.25, 0.36	No	No	No	S	1.5ft.	0.5ft.	2.7	2.7	0.0	12	14	32	Btuh	
4	2 NFRC	0.25, 0.36	No	No	No	E	1.5ft.	0.5ft.	6.0	1.5	4.5	12	31	158	Btuh	
5	2 NFRC	0.25, 0.36	No	No	No	E	6.8ft.	0.5ft.	20.0	15.5	4.5	12	31	326	Btuh	
6	2 NFRC	0.25, 0.36	No	No	No	N	1.5ft.	0.5ft.	30.0	0.0	30.0	12	12	363	Btuh	
	Excursion													38	Btuh	
	Window Total								104 (sqft)						1943	Btuh
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load	
									Cav/Sheath							
1	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		190.0		2.5		482	Btuh
2	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		366.3		2.5		930	Btuh
3	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		122.0		2.5		310	Btuh
4	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		42.7		2.5		108	Btuh
5	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		92.0		2.5		234	Btuh
6	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		311.3		2.5		791	Btuh
	Wall Total										1124 (sqft)				2855	Btuh
Doors	Type										Area (sqft)		HTM		Load	
	Insulated - Exterior										20.0		13.8		276	Btuh
	Door Total										20 (sqft)				276	Btuh
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load	
	Vented Attic/Med/Shingle/RB						0.025		38.0/0.0		1501.0		1.12		1676	Btuh
	Ceiling Total										1501 (sqft)				1676	Btuh
Floors	Type								R-Value		Size		HTM		Load	
	Slab On Grade								0.0		1365 (ft-perimeter)		0.0		0	Btuh
	Floor Total										1365.0 (sqft)				0	Btuh
	Envelope Subtotal:													6750 Btuh		
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load	
	Natural							0.12		10920		1		21.4		445 Btuh
Internal gain							Occupants		Btuh/occupant				Appliance		Load	
								6	X	230	+		1200		2580 Btuh	
	Sensible Envelope Load:													9775 Btuh		
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)										(DGM of 0.421)				4112 Btuh	
															Sensible Load All Zones	
														13888 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Yasmanis Reyes
NW Crews Glen
, FL 32024

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Yasmanis Reyes_

6/22/2023

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	9775 Btuh
	Sensible Duct Load	4112 Btuh
	Total Sensible Zone Loads	13888 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	13888 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	739 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1075 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3013 Btuh
	TOTAL GAIN	16901 Btuh

EQUIPMENT

1. Central Unit	#	16901 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