

Residential System Sizing Calculation

Summary

Yasmanis Reyes - Jorge
NW Crews Glen
, FL 32024

Project Title:
Reyes - Jorge

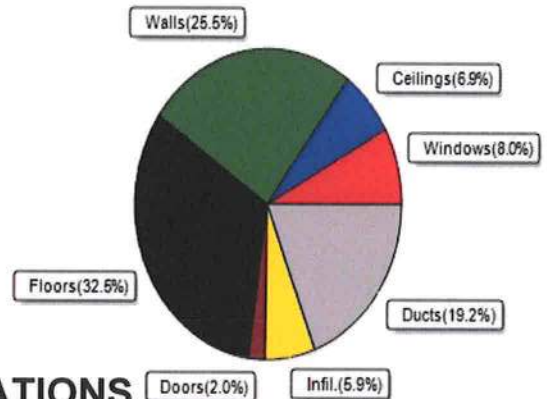
8/25/2022

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	18571 Btuh	Total cooling load calculation	14247 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 18571	Sensible (SHR = 0.70)	84.8 9717
Heat Pump + Auxiliary(0.0kW)	100.0 18571	Latent	149.3 4164
		Total (Electric Heat Pump)	97.4 13881

WINTER CALCULATIONS

Winter Heating Load (for 1196 sqft)

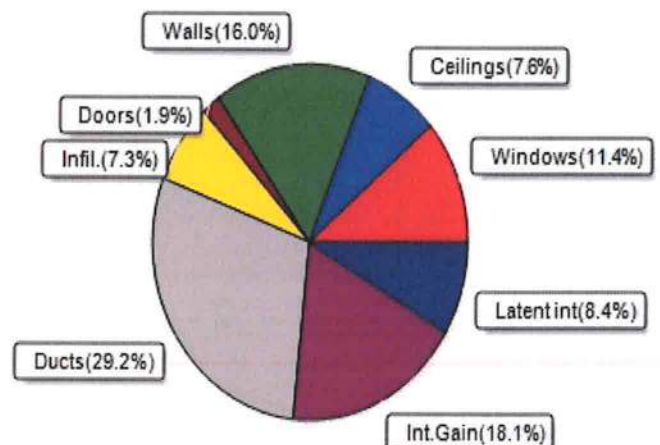
Load component		Load	
Window total	104 sqft	1493	Btuh
Wall total	900 sqft	4738	Btuh
Door total	20 sqft	368	Btuh
Ceiling total	1256 sqft	1275	Btuh
Floor total	1196 sqft	6042	Btuh
Infiltration	25 cfm	1095	Btuh
Duct loss		3561	Btuh
Subtotal		18571	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		18571	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1196 sqft)

Load component		Load	
Window total	104 sqft	1620	Btuh
Wall total	900 sqft	2286	Btuh
Door total	20 sqft	276	Btuh
Ceiling total	1256 sqft	1084	Btuh
Floor total		0	Btuh
Infiltration	19 cfm	390	Btuh
Internal gain		2580	Btuh
Duct gain		3222	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		11458	Btuh
Latent gain(ducts)		942	Btuh
Latent gain(infiltration)		647	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		2789	Btuh
TOTAL HEAT GAIN		14247	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 8 / 25 / 2022

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Yasmanis Reyes - Jorge
NW Crews Glen
, FL 32024

Project Title:
Reyes - Jorge
Building Type: User

8/25/2022

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 F (TMY3 99%)

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	6.0		14.4	86 Btuh
2	2, NFRC 0.25	TIM	0.36	W	20.0		14.4	288 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	30.0		14.4	432 Btuh
4	2, NFRC 0.25	Vinyl	0.36	S	30.0		14.4	432 Btuh
5	2, NFRC 0.25	Vinyl	0.36	N	15.0		14.4	216 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	2.7		14.4	38 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	182		5.26	958 Btuh
2	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	244		5.26	1284 Btuh
3	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	188		5.26	989 Btuh
4	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	286		5.26	1507 Btuh
Wall Total					900(sqft)			4738 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	Vented Attic/L/Shing		(0.025)	38.0/0.0	1256		1.0	1275 Btuh
Ceiling Total					1256(sqft)			1275Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	128.0 ft(perim.)		47.2	6042 Btuh
Floor Total					1196 sqft			6042 Btuh
Envelope Subtotal:								13916 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.16	9568	1.00	25.0		1095 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.237)							3561 Btuh
All Zones	Sensible Subtotal All Zones							18571 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Yasmanis Reyes - Jorge
NW Crews Glen
, FL 32024

Project Title:
Reyes - Jorge
Building Type: User

8/25/2022

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	18571 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	18571 Btuh

EQUIPMENT

1. Electric Heat Pump	#	18571 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 - Jorge
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, FL 32024

Project Title:
Reyes - Jorge

8/25/2022

Reference City: Gainesville, FL

Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

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	9.5ft.	0.5ft.	6.0	6.0	0.0	12	31	73 Btuh	
2	2 NFRC	0.25, 0.36	No	No	No	W	9.5ft.	0.5ft.	20.0	20.0	0.0	12	31	242 Btuh	
3	2 NFRC	0.25, 0.36	No	No	No	S	1.5ft.	0.5ft.	30.0	30.0	0.0	12	14	363 Btuh	
4	2 NFRC	0.25, 0.36	No	No	No	S	1.5ft.	0.5ft.	30.0	30.0	0.0	12	14	363 Btuh	
5	2 NFRC	0.25, 0.36	No	No	No	N	1.5ft.	0.5ft.	15.0	0.0	15.0	12	12	181 Btuh	
6	2 NFRC	0.25, 0.36	No	No	No	N	1.5ft.	0.5ft.	2.7	0.0	2.7	12	12	32 Btuh	
	Excursion													365 Btuh	
	Window Total								104 (sqft)					1620 Btuh	
Walls	Type		U-Value		R-Value		Area(sqft)		HTM		Load				
					Cav/Sheath										
1	Concrete Blk,Hollow- Ext		0.13		5.0/0.0		182.0		2.5		462 Btuh				
2	Concrete Blk,Hollow- Ext		0.13		5.0/0.0		244.0		2.5		620 Btuh				
3	Concrete Blk,Hollow- Ext		0.13		5.0/0.0		188.0		2.5		477 Btuh				
4	Concrete Blk,Hollow- Ext		0.13		5.0/0.0		286.3		2.5		727 Btuh				
	Wall Total						900 (sqft)				2286 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/Light/Shingle/RB		0.025		38.0/0.0		1256.0		0.86		1084 Btuh				
	Ceiling Total						1256 (sqft)				1084 Btuh				
Floors	Type		R-Value		Size		HTM		Load						
	Slab On Grade		0.0		1196 (ft-perimeter)		0.0		0 Btuh						
	Floor Total				1196.0 (sqft)				0 Btuh						
	Envelope Subtotal:												5266 Btuh		
Infiltration	Type		Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load				
	Natural		0.12		9568		1		18.7		390 Btuh				
Internal gain	Occupants		Btuh/occupant		Appliance		Load								
	6		X 230		+		1200		2580 Btuh						
	Sensible Envelope Load:												8236 Btuh		
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)		(DGM of 0.391)		Load										
					3222 Btuh										
	Sensible Load All Zones												11458 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Yasmanis Reyes - Jorge
NW Crews Glen
, FL 32024

Project Title:
Reyes - Jorge

Climate:FL_GAINESVILLE_REGIONAL_A

8/25/2022

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	8236 Btuh
	Sensible Duct Load	3222 Btuh
	Total Sensible Zone Loads	11458 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	11458 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	647 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	942 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	2789 Btuh
	TOTAL GAIN	14247 Btuh

EQUIPMENT

1. Central Unit	#	13881 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