

Residential System Sizing Calculation

Summary

Marie Colon
1081 SW NEBRASKA TERR.
Ft White, FL 32038

Project Title:
Colon Residence

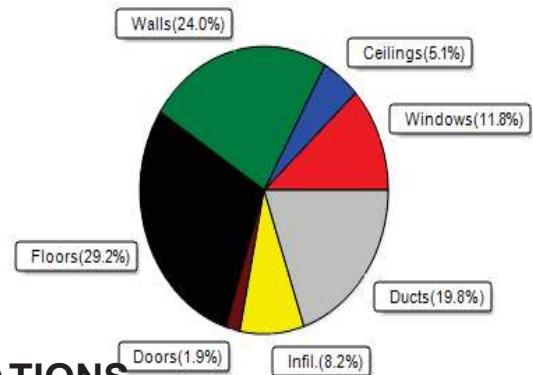
6/26/2023

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	19400	Btuh	Total cooling load calculation	17675	Btuh
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	100.0	19400	Sensible (SHR = 0.70)	85.1	12373
Heat Pump + Auxiliary(0.0kW)	100.0	19400	Latent	169.5	5303
			Total (Electric Heat Pump)	100.0	17675

WINTER CALCULATIONS

Winter Heating Load (for 1310 sqft)

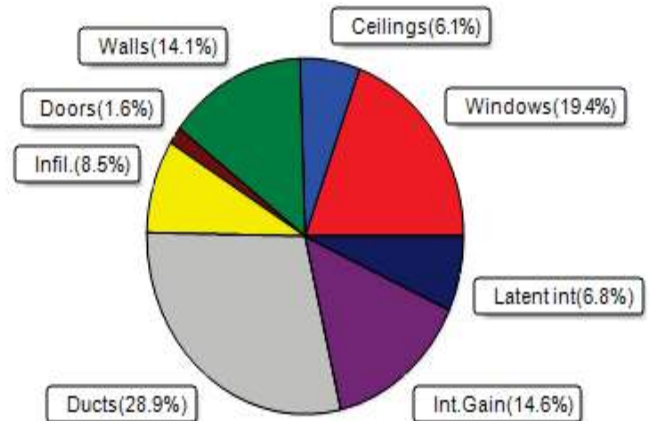
Load component	Load
Window total 160 sqft	2298 Btuh
Wall total 1508 sqft	4660 Btuh
Door total 20 sqft	368 Btuh
Ceiling total 966 sqft	980 Btuh
Floor total See detail report	5664 Btuh
Infiltration 36 cfm	1582 Btuh
Duct loss	3848 Btuh
Subtotal	19400 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	19400 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1310 sqft)

Load component	Load
Window total 160 sqft	3434 Btuh
Wall total 1508 sqft	2493 Btuh
Door total 20 sqft	276 Btuh
Ceiling total 966 sqft	1078 Btuh
Floor total	0 Btuh
Infiltration 27 cfm	564 Btuh
Internal gain	2580 Btuh
Duct gain	4121 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	14546 Btuh
Latent gain(ducts)	994 Btuh
Latent gain(infiltration)	935 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	1200 Btuh
Total latent gain	3129 Btuh
TOTAL HEAT GAIN	17675 Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 6 / 26 / 2023

Will C. [Signature]

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Marie Colon
1081 SW NEBRASKA TERR.
Ft White, FL 32038

Project Title:
Colon Residence
Building Type: User

6/26/2023

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	15.0		14.4	216 Btuh
2	2, NFRC 0.25	TIM	0.36	W	35.6		14.4	512 Btuh
3	2, NFRC 0.25	Vinyl	0.36	W	15.0		14.4	216 Btuh
4	2, NFRC 0.25	Vinyl	0.36	S	4.0		14.4	58 Btuh
5	2, NFRC 0.25	Vinyl	0.36	S	15.0		14.4	216 Btuh
6	2, NFRC 0.25	Vinyl	0.36	E	4.0		14.4	58 Btuh
7	2, NFRC 0.25	TIM	0.36	E	20.0		14.4	288 Btuh
8	2, NFRC 0.25	Vinyl	0.36	E	9.0		14.4	130 Btuh
9	2, NFRC 0.25	Vinyl	0.36	N	12.0		14.4	173 Btuh
10	2, NFRC 0.25	Vinyl	0.36	W	15.0		14.4	216 Btuh
11	2, NFRC 0.25	Vinyl	0.36	E	15.0		14.4	216 Btuh
Window Total					159.6(sqft)			2298 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	172		3.09	531 Btuh
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	70		3.09	217 Btuh
3	Frame - Wood	- Ext	(0.077)	19.0/0.0	221		3.09	683 Btuh
4	Frame - Wood	- Ext	(0.077)	19.0/0.0	187		3.09	578 Btuh
5	Frame - Wood	- Ext	(0.077)	19.0/0.0	137		3.09	424 Btuh
6	Frame - Wood	- Ext	(0.077)	19.0/0.0	181		3.09	558 Btuh
7	Frame - Wood	- Ext	(0.077)	19.0/0.0	137		3.09	424 Btuh
8	Frame - Wood	- Ext	(0.077)	19.0/0.0	85		3.09	264 Btuh
9	Frame - Wood	- Ext	(0.077)	19.0/0.0	137		3.09	424 Btuh
10	Frame - Wood	- Ext	(0.077)	19.0/0.0	180		3.09	555 Btuh
Wall Total					1508(sqft)			4660 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/Metal		(0.025)	38.0/0.0	515		1.0	522 Btuh
2	Sloped ce/M/Metal		(0.025)	38.0/0.0	451		1.0	458 Btuh
Ceiling Total					966(sqft)			980Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	120.0 ft(perim.)		47.2	5664 Btuh
2	Interior		(1.180)	19.0	410.0 sqft		0.0	0 Btuh
Floor Total					1310 sqft			5664 Btuh
Envelope Subtotal:								13970 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		Load
	Natural		0.21	10480	1.00	36.1		1582 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Marie Colon
1081 SW NEBRASKA TERR.
Ft White, FL 32038

Project Title:
Colon Residence
Building Type: User

6/26/2023

Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.247)	3848 Btuh
All Zones	Sensible Subtotal All Zones	19400 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	19400 Btuh 0 Btuh 19400 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	19400 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

Marie Colon
1081 SW NEBRASKA TERR.
Ft White, FL 32038

Project Title:
Colon Residence

6/26/2023

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	W		20.0f	10.0f	15.0	15.0	0.0	12	31	181	Btuh
2	2 NFRC	0.25, 0.36	No	No	W		20.0f	10.0f	35.6	35.2	0.4	12	31	437	Btuh
3	2 NFRC	0.25, 0.36	No	No	W		20.0f	10.0f	15.0	15.0	0.0	12	31	181	Btuh
4	2 NFRC	0.25, 0.36	No	No	S		1.0ft.	10.0f	4.0	0.0	4.0	12	14	56	Btuh
5	2 NFRC	0.25, 0.36	No	No	S		1.0ft.	10.0f	15.0	0.0	15.0	12	14	211	Btuh
6	2 NFRC	0.25, 0.36	No	No	E		1.0ft.	10.0f	4.0	0.0	4.0	12	31	124	Btuh
7	2 NFRC	0.25, 0.36	No	No	E		1.0ft.	10.0f	20.0	0.0	20.0	12	31	619	Btuh
8	2 NFRC	0.25, 0.36	No	No	E		1.0ft.	6.0ft.	9.0	0.0	9.0	12	31	278	Btuh
9	2 NFRC	0.25, 0.36	No	No	N		1.0ft.	1.0ft.	12.0	0.0	12.0	12	12	145	Btuh
10	2 NFRC	0.25, 0.36	No	No	W		20.0f	3.0ft.	15.0	15.0	0.0	12	31	181	Btuh
11	2 NFRC	0.25, 0.36	No	No	E		1.0ft.	3.0ft.	15.0	0.0	15.0	12	31	464	Btuh
	Excursion													555	Btuh
	Window Total								160 (sqft)					3434 Btuh	
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load					
1	Frame - Wood - Ext		0.08		19.0/0.0		171.9		1.7		284 Btuh				
2	Frame - Wood - Ext		0.08		19.0/0.0		70.3		1.7		116 Btuh				
3	Frame - Wood - Ext		0.08		19.0/0.0		221.0		1.7		365 Btuh				
4	Frame - Wood - Ext		0.08		19.0/0.0		187.0		1.7		309 Btuh				
5	Frame - Wood - Ext		0.08		19.0/0.0		137.3		1.7		227 Btuh				
6	Frame - Wood - Ext		0.08		19.0/0.0		180.5		1.7		298 Btuh				
7	Frame - Wood - Ext		0.08		19.0/0.0		137.3		1.7		227 Btuh				
8	Frame - Wood - Ext		0.08		19.0/0.0		85.3		1.7		141 Btuh				
9	Frame - Wood - Ext		0.08		19.0/0.0		137.3		1.7		227 Btuh				
10	Frame - Wood - Ext		0.08		19.0/0.0		179.7		1.7		297 Btuh				
	Wall Total							1508 (sqft)				2493 Btuh			
Doors	Type	Area (sqft)		HTM		Load									
1	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					
1	Vented Attic/Med/Metal/RB		0.025		38.0/0.0		514.5		1.12		575 Btuh				
2	Vented Attic/Med/Metal/RB		0.025		38.0/0.0		451.0		1.12		504 Btuh				
	Ceiling Total							966 (sqft)				1078 Btuh			
Floors	Type	R-Value		Size		HTM		Load							
1	Slab On Grade		0.0		900 (ft-perimeter)		0.0		0 Btuh						
2	Interior		19.0		410 (sqft)		0.0		0 Btuh						
	Floor Total							1310.0 (sqft)				0 Btuh			
	Envelope Subtotal:													7281 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

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1081 SW NEBRASKA TERR.
Ft White, FL 32038

Project Title:
Colon Residence

Climate:FL_GAINESVILLE_REGIONAL_A

6/26/2023

Infiltration	Type Natural	Average ACH 0.16	Volume(cuft) 10480	Wall Ratio 1	CFM= 27.1	Load 564 Btuh
Internal gain		Occupants 6	Btuh/occupant X 230	Appliance +	1200	Load 2580 Btuh
	Sensible Envelope Load:					10425 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.395)					4121 Btuh
	Sensible Load All Zones					14546 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

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Colon Residence

Climate:FL_GAINESVILLE_REGIONAL_A

6/26/2023

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	10425 Btuh
	Sensible Duct Load	4121 Btuh
	Total Sensible Zone Loads	14546 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	14546 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	935 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	994 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3129 Btuh
	TOTAL GAIN	17675 Btuh

EQUIPMENT

1. Central Unit	#	17675 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