

Manual J Winter Calculations

Residential Load - Component Details (continued)

Aaron Simpue Homes

Project Title:
200202 1995-Model
Building Type: User

Lake City, FL

2020-03-13

Infiltration	Type Natural	Wholehouse ACH 0.29	Volume(cuft) 19950	Wall Ratio 1.00	CFM= 97.3	4262 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.173)					4728 Btuh
All Zones	Sensible Subtotal All Zones					32076 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	32076 Btuh 0 Btuh 32076 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	38000 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

Aaron Simpue Homes

Project Title:
200202 1995-Model

Lake City, FL

2020-03-13

Reference City: Gainesville, FL Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.
This calculation is for Worst Case. The house has been rotated 315 degrees.

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	0.20, 0.30	No	No	NW	14.2f	1.0ft	54.0	0.0	54.0	10	19	1034	Btuh	
2	2 NFRC	0.20, 0.30	No	No	NW	14.2f	1.0ft	16.0	0.0	16.0	10	19	306	Btuh	
3	2 NFRC	0.20, 0.30	No	No	NW	1.5ft	1.5ft	36.0	0.0	36.0	10	19	689	Btuh	
4	2 NFRC	0.20, 0.30	No	No	NE	1.5ft	0.5ft	8.3	0.0	8.3	10	19	159	Btuh	
5	2 NFRC	0.20, 0.30	No	No	NE	1.5ft	1.5ft	16.0	0.0	16.0	10	19	306	Btuh	
6	2 NFRC	0.20, 0.30	No	No	NE	1.5ft	1.5ft	8.0	0.0	8.0	10	19	153	Btuh	
7	2 NFRC	0.20, 0.30	No	No	NE	1.5ft	1.5ft	36.0	0.0	36.0	10	19	689	Btuh	
8	2 NFRC	0.20, 0.30	No	No	SE	12.5f	1.0ft	8.0	8.0	0.0	10	20	79	Btuh	
9	2 NFRC	0.20, 0.30	No	No	SE	7.5ft	1.0ft	36.0	36.0	0.0	10	20	357	Btuh	
10	2 NFRC	0.20, 0.30	No	No	SW	1.5ft	1.5ft	12.0	1.9	10.1	10	20	221	Btuh	
11	2 NFRC	0.20, 0.30	No	No	SW	1.5ft	4.8ft	8.0	0.0	8.0	10	20	160	Btuh	
12	2 NFRC	0.20, 0.30	No	No	SW	1.5ft	1.5ft	18.0	2.9	15.1	10	20	331	Btuh	
	Excursion													360	Btuh
	Window Total								256 (sqft)					4845 Btuh	
Walls	Type	U-Value		R-Value		Area(sqft)			HTM		Load				
1	Frame - Wood - Ext		0.09		13.0/0.0			95.3		2.3		216	Btuh		
2	Frame - Wood - Ext		0.09		13.0/0.0			126.7		2.3		287	Btuh		
3	Frame - Wood - Ext		0.09		13.0/0.0			200.7		2.3		454	Btuh		
4	Frame - Wood - Ext		0.09		13.0/0.0			371.7		2.3		841	Btuh		
5	Frame - Wood - Adj		0.09		13.0/0.0			173.3		1.7		292	Btuh		
6	Frame - Wood - Adj		0.09		13.0/0.0			23.3		1.7		39	Btuh		
7	Frame - Wood - Adj		0.09		13.0/0.0			26.4		1.7		45	Btuh		
8	Frame - Wood - Adj		0.09		13.0/0.0			156.7		1.7		264	Btuh		
9	Frame - Wood - Ext		0.09		13.0/0.0			28.0		2.3		63	Btuh		
10	Frame - Wood - Ext		0.09		13.0/0.0			50.0		2.3		113	Btuh		
11	Frame - Wood - Ext		0.09		13.0/0.0			94.0		2.3		213	Btuh		
12	Frame - Wood - Ext		0.09		13.0/0.0			505.3		2.3		1144	Btuh		
	Wall Total								1851 (sqft)					3971 Btuh	
Doors	Type	U-Value		R-Value		Area (sqft)			HTM		Load				
1	Insulated - Exterior							8.0		12.0		96	Btuh		
2	Insulated - Garage							17.8		12.0		213	Btuh		
3	Insulated - Exterior							24.0		12.0		288	Btuh		
	Door Total								50 (sqft)					597 Btuh	
Ceilings	Type/Color/Surface	U-Value		R-Value		Area(sqft)			HTM		Load				
1	Vented Attic/DarkShingle		0.025		38.0/0.0			2130.0		1.37		2919	Btuh		
	Ceiling Total								2130 (sqft)					2919 Btuh	
Floors	Type	U-Value		R-Value		Size			HTM		Load				
1	Slab On Grade				0.0			1995 (ft-perimeter)		0.0		0	Btuh		
	Floor Total								1995.0 (sqft)					0 Btuh	
	Envelope Subtotal:												12332 Btuh		

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Climate:FL_GAINESVILLE_REGIONAL_A

Lake City, FL

2020-03-13

Infiltration	Type Natural	Average ACH 0.22	Volume(cuft) 19950	Wall Ratio 1	CFM= 73.0	Load 1518 Btuh
Internal gain		Occupants 4	Btuh/occupant X 230	Appliance +	2400	Load 3320 Btuh
					Sensible Envelope Load:	17171 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.332)	5699 Btuh
					Sensible Load All Zones	22870 Btuh

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2020-03-13

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	17171 Btuh
	Sensible Duct Load	5699 Btuh
	Total Sensible Zone Loads	22870 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	22870 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2520 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1140 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4459 Btuh
	TOTAL GAIN	27330 Btuh

EQUIPMENT

1. Central Unit	#	38000 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