

Manual J Winter Calculations

Residential Load - Component Details (continued)

Brenda Nelson
Pinemount Road
Lake City, FL

Project Title:
200430 Nelson
Building Type: User

2020-05-01

Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.167)	3114 Btuh
All Zones	Sensible Subtotal All Zones	21799 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	21799 Btuh 0 Btuh 21799 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	26000 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

Brenda Nelson
Pinemount Road
Lake City, FL

Project Title:
200430 Nelson

2020-05-01

Reference City: Gainesville, FL Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.
This calculation is for Worst Case. The house has been rotated 45 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	NE		11.0ft	1.0ft	13.3	0.0	13.3	10	19	255	Btuh	
2	2 NFRC	0.20, 0.30	No	No	NE		7.5ft	1.0ft	9.0	0.0	9.0	10	19	172	Btuh	
3	2 NFRC	0.20, 0.30	No	No	NE		7.5ft	1.0ft	15.0	0.0	15.0	10	19	287	Btuh	
4	2 NFRC	0.20, 0.30	No	No	NE		7.5ft	1.0ft	13.3	0.0	13.3	10	19	255	Btuh	
5	2 NFRC	0.20, 0.30	No	No	NE		1.5ft	1.0ft	6.0	0.0	6.0	10	19	115	Btuh	
6	2 NFRC	0.20, 0.30	No	No	SE		1.5ft	4.0ft	6.0	0.0	6.0	10	20	120	Btuh	
7	2 NFRC	0.20, 0.30	No	No	SW		1.5ft	1.0ft	15.0	4.4	10.6	10	20	256	Btuh	
8	2 NFRC	0.20, 0.30	No	No	SW		6.5ft	1.0ft	30.0	30.0	0.0	10	20	297	Btuh	
9	2 NFRC	0.20, 0.30	No	No	SW		1.5ft	3.0ft	30.0	0.0	30.0	10	20	601	Btuh	
10	2 NFRC	0.20, 0.30	No	No	NW		1.5ft	2.0ft	12.0	0.0	12.0	10	19	230	Btuh	
11	2 NFRC	0.20, 0.30	No	No	NW		1.5ft	5.0ft	4.0	0.0	4.0	10	19	77	Btuh	
	Excursion													312	Btuh	
	Window Total								154 (sqft)						2977	Btuh
Walls	Type	U-Value				R-Value		Area(sqft)			HTM		Load			
						Cav/Sheath										
1	Frame - Wood - Ext					0.09	13.0/0.0		178.0			2.3		403	Btuh	
2	Frame - Wood - Ext					0.09	13.0/0.0		107.5			2.3		243	Btuh	
3	Frame - Wood - Ext					0.09	13.0/0.0		112.5			2.3		255	Btuh	
4	Frame - Wood - Ext					0.09	13.0/0.0		172.5			2.3		390	Btuh	
5	Frame - Wood - Ext					0.09	13.0/0.0		103.5			2.3		234	Btuh	
6	Frame - Wood - Ext					0.09	13.0/0.0		49.1			2.3		111	Btuh	
7	Frame - Wood - Ext					0.09	13.0/0.0		149.5			2.3		338	Btuh	
8	Frame - Wood - Ext					0.09	13.0/0.0		45.0			2.3		102	Btuh	
9	Frame - Wood - Ext					0.09	13.0/0.0		120.0			2.3		272	Btuh	
10	Frame - Wood - Ext					0.09	13.0/0.0		254.0			2.3		575	Btuh	
	Wall Total								1292 (sqft)					2923	Btuh	
Doors	Type	U-Value				R-Value		Area (sqft)			HTM		Load			
1	Insulated - Exterior								6.7			12.0		80	Btuh	
2	Insulated - Exterior								6.7			12.0		80	Btuh	
3	Insulated - Exterior								20.0			12.0		240	Btuh	
	Door Total								33 (sqft)					400	Btuh	
Ceilings	Type/Color/Surface	U-Value				R-Value		Area(sqft)			HTM		Load			
1	Vented Attic/DarkShingle					0.025	38.0/0.0		1412.0			1.37		1935	Btuh	
	Ceiling Total								1412 (sqft)					1935	Btuh	
Floors	Type	U-Value				R-Value		Size			HTM		Load			
1	Slab On Grade						0.0		1315 (ft-perimeter)			0.0		0	Btuh	
	Floor Total								1315.0 (sqft)					0	Btuh	
	Envelope Subtotal:													8235	Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Brenda Nelson
Pinemount Road
Lake City, FL

Project Title:
200430 Nelson

Climate:FL_GAINESVILLE_REGIONAL_A

2020-05-01

Infiltration	Type Natural	Average ACH 0.21	Volume(cuft) 12627	Wall Ratio 1	CFM= 43.6	Load 908 Btuh
Internal gain		Occupants 4	Btuh/occupant X 230	Appliance +	2400	Load 3320 Btuh
					Sensible Envelope Load:	12463 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.312)	3892 Btuh
					Sensible Load All Zones	16355 Btuh

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Project Title:
200430 Nelson

Climate:FL_GAINESVILLE_REGIONAL_A

2020-05-01

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	12463 Btuh
	Sensible Duct Load	3892 Btuh
	Total Sensible Zone Loads	16355 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	16355 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1506 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	773 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3079 Btuh
	TOTAL GAIN	19434 Btuh

EQUIPMENT

1. Central Unit	#	26000 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