

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Norris Construction

Project Title:

Lake City, FL 32024

Norris Stonehenge Lot 6

Building Type: User

9/14/2022

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 °F (MJ8 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 0.21	Metal	0.33	N	45.0		12.2	549 Btuh
2	2, NFRC 0.21	Metal	0.33	N	9.0		12.2	110 Btuh
3	2, NFRC 0.21	Metal	0.33	S	40.0		12.2	488 Btuh
4	2, NFRC 0.21	Metal	0.33	S	15.0		12.2	183 Btuh
5	2, NFRC 0.21	Metal	0.33	W	6.0		12.2	73 Btuh
6	2, NFRC 0.21	Metal	0.33	W	8.0		12.2	98 Btuh
Window Total					123.0(sqft)			1502 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.085)	13.0/1.0	393		3.14	1233 Btuh
2	Frame - Wood	- Ext	(0.085)	13.0/1.0	232		3.14	728 Btuh
3	Frame - Wood	- Adj	(0.085)	13.0/1.0	142		3.14	446 Btuh
4	Frame - Wood	- Ext	(0.085)	13.0/1.0	139		3.14	435 Btuh
5	Frame - Wood	- Ext	(0.085)	13.0/1.0	102		3.14	319 Btuh
6	Frame - Wood	- Ext	(0.085)	13.0/1.0	396		3.14	1244 Btuh
Wall Total					1404(sqft)			4406 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		33		17.0	567 Btuh
2	Insulated - Garage, n		(0.460)		18		17.0	303 Btuh
3	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
Door Total					71(sqft)			1210Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Sloped ce/M/Shing		(0.014)	38.0/38.0	1762		0.50	886 Btuh
Ceiling Total					1762(sqft)			886Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	221.0 ft(perim.)		43.7	9649 Btuh
Floor Total					1762 sqft			9649 Btuh
Envelope Subtotal:								17653 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.16	14096	1.00	36.8		1492 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.154)							2947 Btuh
All Zones	Sensible Subtotal All Zones							22092 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Norris Construction

Project Title:
Norris Stonehenge Lot 6
Building Type: User

Lake City, FL 32024

9/14/2022

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	22092 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	22092 Btuh

EQUIPMENT

1. Electric Heat Pump	#	42000 Btuh
-----------------------	---	------------

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

Norris Construction

Project Title:
Norris Stonehenge Lot 6

Lake City, FL 32024

9/14/2022

Reference City: Gainesville, FL (Defaults)
Humidity difference: 47gr.

Temperature Difference: 17.0F(MJ8 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	0.21, 0.33	B-L	No	N		1.5ft	1.0ft	45.0	0.0	45.0	8	8	346	Btuh		
2	2 NFRC	0.21, 0.33	B-L	No	N		1.5ft	1.0ft	9.0	0.0	9.0	8	8	69	Btuh		
3	2 NFRC	0.21, 0.33	B-L	No	S		6.0ft	1.0ft	40.0	40.0	0.0	8	9	307	Btuh		
4	2 NFRC	0.21, 0.33	B-L	No	S		1.5ft	1.0ft	15.0	15.0	0.0	8	9	115	Btuh		
5	2 NFRC	0.21, 0.33	B-L	No	W		1.5ft	1.0ft	6.0	0.5	5.5	8	19	108	Btuh		
6	2 NFRC	0.21, 0.33	B-L	No	W		1.5ft	1.0ft	8.0	1.0	7.0	8	19	140	Btuh		
	Excursion													88	Btuh		
	Window Total								123 (sqft)					1173 Btuh			
Walls	Type					U-Value		R-Value		Area(sqft)		HTM		Load			
								Cav/Sheath									
1	Frame - Wood - Ext					0.08		13.0/1.0		392.7		2.0		783 Btuh			
2	Frame - Wood - Ext					0.08		13.0/1.0		232.0		2.0		463 Btuh			
3	Frame - Wood - Adj					0.08		13.0/1.0		142.2		1.4		205 Btuh			
4	Frame - Wood - Ext					0.08		13.0/1.0		138.7		2.0		276 Btuh			
5	Frame - Wood - Ext					0.08		13.0/1.0		101.7		2.0		203 Btuh			
6	Frame - Wood - Ext					0.08		13.0/1.0		396.3		2.0		790 Btuh			
	Wall Total								1404 (sqft)					2720 Btuh			
Doors	Type									Area (sqft)		HTM		Load			
1	Insulated - Exterior									33.3		12.9		429 Btuh			
2	Insulated - Garage									17.8		12.9		229 Btuh			
3	Insulated - Exterior									20.0		12.9		258 Btuh			
	Door Total								71 (sqft)					916 Btuh			
Ceilings	Type/Color/Surface					U-Value		R-Value		Area(sqft)		HTM		Load			
1	Vented Attic/Med/Shingle					0.014		38.0/38.0		1762.0		0.57		1005 Btuh			
	Ceiling Total								1762 (sqft)					1005 Btuh			
Floors	Type							R-Value		Size		HTM		Load			
1	Slab On Grade							0.0		1762 (ft-perimeter)		0.0		0 Btuh			
	Floor Total								1762.0 (sqft)					0 Btuh			
	Envelope Subtotal:													5814 Btuh			
Infiltration	Type					Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load			
	Natural																
						0.12		14096		1		27.6		514 Btuh			
Internal gain						Occupants		Btuh/occupant		Appliance		Load					
								X 230		+ <th colspan="2">1200<td colspan="2">1890 Btuh</td></th>		1200 <td colspan="2">1890 Btuh</td>		1890 Btuh			
	Sensible Envelope Load:													8218 Btuh			
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)													(DGM of 0.418)		3438 Btuh	
	Sensible Load All Zones													11656 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

Norris Construction

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Norris Stonehenge Lot 6

Lake City, FL 32024

9/14/2022

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	8218 Btuh
	Sensible Duct Load	3438 Btuh
	Total Sensible Zone Loads	11656 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	11656 Btuh
	Latent infiltration gain (for 47 gr. humidity difference)	879 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	805 Btuh
	Latent occupant gain (3.0 people @ 200 Btuh per person)	600 Btuh
	Latent other gain	1200 Btuh
	Latent total gain	3483 Btuh
	TOTAL GAIN	15139 Btuh

EQUIPMENT

1. Central Unit	#	42000 Btuh
-----------------	---	------------

*Key: Window types (Panels - Number and type of panels of glass)

(SHGC - Shading coefficient of glass as SHGC numerical value)

(U - Window U-Factor)

(InSh - Interior shading device: none(N), 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