System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Michele Denoff
2903 Pinemount Rd
Lake City, FL

Project Title:
200593 Denoff
Building Type: User

2020-07-02

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	Metal	0.35	E	54.0	14.0	756 Btuh
	Window Total				54.0(sqft)		756 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	180	3.55	639 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	110	3.55	391 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	200	3.55	710 Btuh
	Wall Total				490(sqft)		1740 Btuh
Doors	Type	Storm	Ueff.		Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.400)		20	16.0	320 Btuh
2	Insulated - Exterior,	n	(0.400)		20	16.0	320 Btuh
	Door Total				40(sqft)		640Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
1	Vented Attic/D/Shing		(0.025)	38.0/0.0	575	1.0	584 Btuh
	Ceiling Total				575(sqft)		584Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	73.0 ft(perim.)	47.2	3446 Btuh
	Floor Total				575 sqft		3446 Btuh
					Envelope Subtotal:		7165 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.21	4600	1.00	16.4	719 Btuh
Duct load	NA, R0.0, Supply(), Return()					(DLM of 0.000)	0 Btuh
All Zones				**Sensible Subtotal All Zones**			**7884 Btuh**

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	7884 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	7884 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Michele Denoff
2903 Pinemount Rd
Lake City, FL

Project Title:
200593 Denoff
Building Type: User

2020-07-02

EQUIPMENT

1. Electric Heat Pump	#	9000 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

Michele Denoff
2903 Pinemount Rd
Lake City, FL

Project Title:
200593 Denoff

2020-07-02

Reference City: Gainesville, FL Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

Component Loads for Whole House

	Type*						Overhang		Window Area(sqft)			HTM		Load	
Window	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	2 NFRC	0.25, 0.35		No	No	E	1.5ft.	6.0ft.	54.0	0.0	54.0	12	31	1661	Btuh
	Excursion													752	Btuh
	Window Total								54 (sqft)					2412	Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load	
1	Frame - Wood - Ext	0.09	13.0/0.0	180.0	2.3	407	Btuh
2	Frame - Wood - Ext	0.09	13.0/0.0	110.0	2.3	249	Btuh
3	Frame - Wood - Ext	0.09	13.0/0.0	200.0	2.3	453	Btuh
	Wall Total			490 (sqft)		1109	Btuh

Doors	Type	Area (sqft)	HTM	Load	
1	Insulated - Exterior	20.0	12.0	240	Btuh
2	Insulated - Exterior	20.0	12.0	240	Btuh
	Door Total	40 (sqft)		480	Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load	
1	Vented Attic/DarkShingle	0.025	38.0/0.0	575.0	1.37	788	Btuh
	Ceiling Total			575 (sqft)		788	Btuh

Floors	Type	R-Value	Size	HTM	Load	
1	Slab On Grade	0.0	575 (ft-perimeter)	0.0	0	Btuh
	Floor Total		575.0 (sqft)		0	Btuh

	Envelope Subtotal:	4790	Btuh

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load	
	Natural	0.16	4600	1	12.3	256	Btuh

Internal gain	Occupants		Btuh/occupant		Appliance	Load	
	4	X	230	+	1200	2120	Btuh

	Sensible Envelope Load:	7166	Btuh
Duct load	NA, Supply(R0.0-None), Return(R0.0-None) (DGM of 0.000)	0	Btuh
	Sensible Load All Zones	**7166**	**Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Michele Denoff
2903 Pinemount Rd
Lake City, FL

Project Title: 200593 Denoff

Climate:FL_GAINESVILLE_REGIONAL_A

2020-07-02

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**7166 Btuh**
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	**7166 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**7166 Btuh**
	Latent infiltration gain (for 51 gr. humidity difference)	425 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**1225 Btuh**
	TOTAL GAIN	**8391 Btuh**

EQUIPMENT

1. PTAC and Room Unit	#	9000 Btuh

*Key: Window types (Panes - 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