

Manual J Winter Calculations

Residential Load - Component Details (continued)

Vladimir Luis
NW Kyle Court
Lake City, FL 32025

Project Title:
Vladimir Luis
Building Type: User

6/6/2024

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	24063 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	24063 Btuh

EQUIPMENT

1. Electric Heat Pump	#	25993 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

Manual J Summer Calculations

Residential Load - Component Details (continued)

Vladimir Luis
NW Kyle Court
Lake City, FL 32025

Project Title:
Vladimir Luis

Climate:FL_GAINESVILLE_REGIONAL_A

6/6/2024

WHOLE HOUSE TOTALS

Whole House	Sensible Envelope Load All Zones	13925 Btuh
	Sensible Duct Load	4892 Btuh
	Total Sensible Zone Loads	18816 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	18816 Btuh
	Totals for Cooling	
	Latent infiltration gain (for 54 gr. humidity difference)	1245 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1190 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3634 Btuh
	TOTAL GAIN	22451 Btuh

EQUIPMENT

1. Central Unit	#	20355 Btuh
-----------------	---	------------

*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

Residential System Sizing Calculation

Summary

Vladimir Luis
NW Kyle Court
Lake City, FL 32025

Project Title:
Vladimir Luis

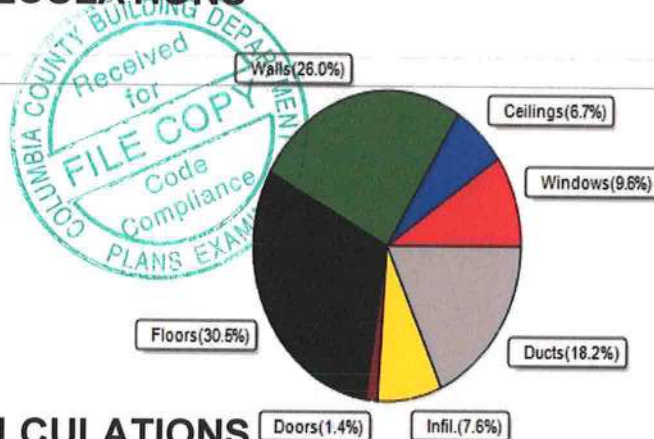
6/6/2024

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (79F) Humidity difference(54gr.)			
Winter design temperature(MJ8 99%/Cu)33	F	Summer design temperature(MJ8 99%/Cu)99	F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	37 F	Summer temperature difference	24 F
Total heating load calculation		24063 Btuh	Total cooling load calculation
			22451 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	108.0 25993	Sensible (SHR = 0.70)	75.7 14248
Heat Pump + Auxiliary(0.0kW)	108.0 25993	Latent	168.0 6106
		Total (Electric Heat Pump)	90.7 20355

WINTER CALCULATIONS

Winter Heating Load (for 1552 sqft)

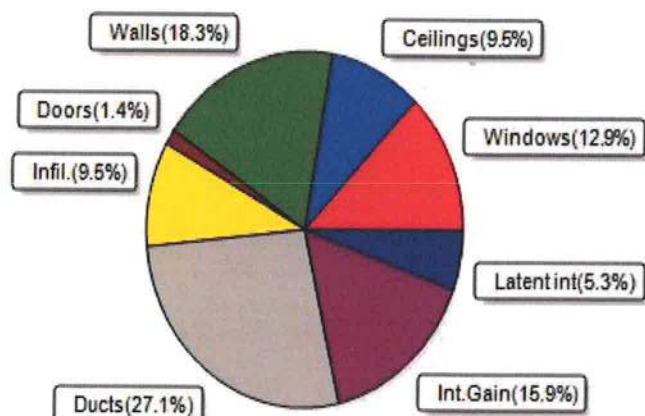
Load component		Load	
Window total	173 sqft	2304	Btuh
Wall total	1151 sqft	6262	Btuh
Door total	20 sqft	340	Btuh
Ceiling total	1707 sqft	1603	Btuh
Floor total	1552 sqft	7335	Btuh
Infiltration	45 cfm	1840	Btuh
Duct loss		4379	Btuh
Subtotal		24063	Btuh
Ventilation Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS		24063	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1552 sqft)

Load component		Load	
Window total	173 sqft	2892	Btuh
Wall total	1151 sqft	4113	Btuh
Door total	20 sqft	322	Btuh
Ceiling total	1707 sqft	2123	Btuh
Floor total		0	Btuh
Infiltration	34 cfm	895	Btuh
Internal gain		3580	Btuh
Duct gain		4892	Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load		0	Btuh
Total sensible gain		18816	Btuh
Latent gain(ducts)		1190	Btuh
Latent gain(infiltration)		1245	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		3634	Btuh
TOTAL HEAT GAIN		22451	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 6 / 6 / 2024

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Vladimir Luis
NW Kyle Court
Lake City, FL 32025

Project Title:
Vladimir Luis
Building Type: User

6/6/2024

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 °F (MJ8 99%/Cu)
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	S	15.0		13.3	200 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	30.0		13.3	400 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	15.0		13.3	200 Btuh
4	2, NFRC 0.25	Vinyl	0.36	E	4.0		13.3	53 Btuh
5	2, NFRC 0.25	Vinyl	0.36	N	45.0		13.3	599 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	9.0		13.3	120 Btuh
7	2, NFRC 0.25	TIM	0.36	W	40.0		13.3	533 Btuh
8	2, NFRC 0.25	Vinyl	0.36	N	15.0		13.3	200 Btuh
Window Total					173.0(sqft)			2304 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	170		5.44	927 Btuh
2	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	62		5.44	337 Btuh
3	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	104		5.44	564 Btuh
4	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	252		5.44	1371 Btuh
5	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	250		5.44	1360 Btuh
6	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	24		5.44	131 Btuh
7	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	97		5.44	528 Btuh
8	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	192		5.44	1045 Btuh
Wall Total					1151(sqft)			6262 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
Door Total					20(sqft)			340Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	1707		0.94	1603 Btuh
Ceiling Total					1707(sqft)			1603Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	168.0 ft(perim.)		43.7	7335 Btuh
Floor Total					1552 sqft			7335 Btuh
Envelope Subtotal:								17845 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		Load
	Natural		0.22	12416	1.00	45.4		1840 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.222)							4379 Btuh
All Zones	Sensible Subtotal All Zones							24063 Btuh

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Vladimir Luis
NW Kyle Court
Lake City, FL 32025

Project Title:
Vladimir Luis

6/6/2024

Reference City: Gainesville, FL (Defaults)
Humidity difference: 54gr.

Temperature Difference: 24.0F(MJ8 99%/Cu)
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	S		1.5ft.	0.5ft.	15.0	15.0	0.0	14	16	208 Btuh
2	2 NFRC	0.25, 0.36	No	No	S		1.5ft.	0.5ft.	30.0	30.0	0.0	14	16	417 Btuh
3	2 NFRC	0.25, 0.36	No	No	S		1.5ft.	0.5ft.	15.0	15.0	0.0	14	16	208 Btuh
4	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	0.5ft.	4.0	3.0	1.0	14	33	75 Btuh
5	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	0.5ft.	45.0	0.0	45.0	14	14	625 Btuh
6	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	0.5ft.	9.0	0.0	9.0	14	14	125 Btuh
7	2 NFRC	0.25, 0.36	No	No	W		4.5ft.	0.5ft.	40.0	19.4	20.6	14	33	944 Btuh
8	2 NFRC	0.25, 0.36	No	No	N		9.5ft.	0.5ft.	15.0	0.0	15.0	14	14	208 Btuh
	Excursion													80 Btuh
	Window Total								173 (sqft)					2892 Btuh
Walls	Type					U-Value	R-Value	Area(sqft)		HTM		Load		
							Cav/Sheath							
1	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	170.3		3.6		609 Btuh		
2	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	62.0		3.6		222 Btuh		
3	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	103.7		3.6		370 Btuh		
4	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	252.0		3.6		900 Btuh		
5	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	250.0		3.6		893 Btuh		
6	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	24.0		3.6		86 Btuh		
7	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	97.0		3.6		347 Btuh		
8	Concrete Blk,Hollow- Ext					0.15	4.2/0.0	192.0		3.6		686 Btuh		
	Wall Total								1151 (sqft)				4113 Btuh	
Doors	Type							Area (sqft)		HTM		Load		
1	Insulated - Exterior							20.0		16.1		322 Btuh		
	Door Total								20 (sqft)				322 Btuh	
Ceilings	Type/Color/Surface					U-Value	R-Value	Area(sqft)		HTM		Load		
1	Vented AtticDarkShingle/RB					0.025	38.0/0.0	1707.2		1.24		2123 Btuh		
	Ceiling Total								1707 (sqft)				2123 Btuh	
Floors	Type						R-Value	Size		HTM		Load		
1	Slab On Grade						0.0	1552 (ft-perimeter)		0.0		0 Btuh		
	Floor Total								1552.0 (sqft)				0 Btuh	
	Envelope Subtotal:												9450 Btuh	
Infiltration	Type					Average ACH	Volume(cuft)		Wall Ratio		CFM=	Load		
	Natural					0.16	12416		1		34.1	895 Btuh		
Internal gain						Occupants	Btuh/occupant		Appliance		Load			
						6	X	230	+	2200	3580 Btuh			
	Sensible Envelope Load:												13925 Btuh	
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)							(DGM of 0.351)				4892 Btuh		
	Sensible Load All Zones												18816 Btuh	