

Residential System Sizing Calculation

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Summary

301 NW Coleman PI
301 NW Coleman Place
Lake City, FL 32025

Project Title:
301 NW Coleman PI

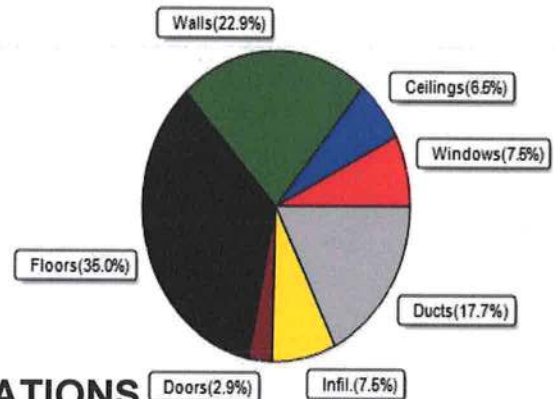
3/8/2024

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	23765 Btuh	Total cooling load calculation	20738 Btuh
Submitted heating capacity % of calc Btuh		Submitted cooling capacity % of calc Btuh	
Total (Electric Heat Pump) 108.0 25673		Sensible (SHR = 0.70) 77.5 13326	
Heat Pump + Auxiliary(0.0kW) 108.0 25673		Latent 161.3 5711	
		Total (Electric Heat Pump) 91.8 19038	

WINTER CALCULATIONS

Winter Heating Load (for 1502 sqft)

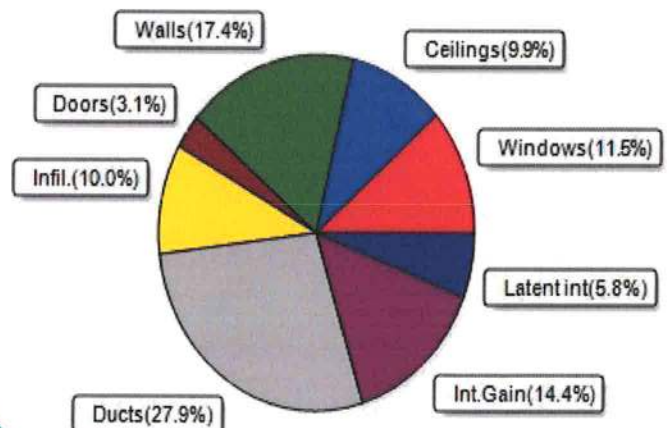
Load component		Load	
Window total	133 sqft	1777 Btuh	
Wall total	1176 sqft	5448 Btuh	
Door total	40 sqft	681 Btuh	
Ceiling total	1652 sqft	1552 Btuh	
Floor total	1502 sqft	8325 Btuh	
Infiltration	44 cfm	1780 Btuh	
Duct loss		4204 Btuh	
Subtotal		23765 Btuh	
Ventilation Ex:0 cfm; Sup:0 cfm		0 Btuh	
TOTAL HEAT LOSS		23765 Btuh	



SUMMER CALCULATIONS

Summer Cooling Load (for 1502 sqft)

Load component		Load	
Window total	133 sqft	2393 Btuh	
Wall total	1176 sqft	3614 Btuh	
Door total	40 sqft	644 Btuh	
Ceiling total	1652 sqft	2055 Btuh	
Floor total		0 Btuh	
Infiltration	33 cfm	866 Btuh	
Internal gain		2980 Btuh	
Duct gain		4645 Btuh	
Sens.Ventilation Ex:0 cfm; Sup:0 cfm		0 Btuh	
Blower Load		0 Btuh	
Total sensible gain		17197 Btuh	
Latent gain(ducts)		1137 Btuh	
Latent gain(infiltration)		1205 Btuh	
Latent gain(ventilation)		0 Btuh	
Latent gain(internal/occupants/other)		1200 Btuh	
Total latent gain		3541 Btuh	
TOTAL HEAT GAIN		20738 Btuh	



8th Edition



EnergyGauge® System Sizing

PREPARED BY:

DATE:

3 / 8 / 2024

EnergyGauge® / USRCZB v8.1.02

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

301 NW Coleman PI
301 NW Coleman Place
Lake City, FL 32025

Project Title:
301 NW Coleman PI
Building Type: User

3/8/2024

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	45.0		13.3	599 Btuh
2	2, NFRC 0.25	Vinyl	0.36	E	4.7		13.3	63 Btuh
3	2, NFRC 0.25	Vinyl	0.36	E	15.0		13.3	200 Btuh
4	2, NFRC 0.25	Vinyl	0.36	N	40.0		13.3	533 Btuh
5	2, NFRC 0.25	Vinyl	0.36	N	9.0		13.3	120 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	4.7		13.3	63 Btuh
7	2, NFRC 0.25	Vinyl	0.36	W	15.0		13.3	200 Btuh
Window Total					133.4(sqft)			1777 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	263		4.87	1280 Btuh
2	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	220		4.87	1072 Btuh
3	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	384		4.87	1867 Btuh
4	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	134		4.87	654 Btuh
5	Frame - Wood - Adj		(0.089)	13.0/0.0	104		3.28	342 Btuh
6	Frame - Wood - Ext		(0.089)	13.0/0.0	71		3.28	232 Btuh
Wall Total					1176(sqft)			5448 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
2	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
Door Total					40(sqft)			681Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	1652		0.94	1552 Btuh
Ceiling Total					1652(sqft)			1552Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	190.7 ft(perim.)		43.7	8325 Btuh
Floor Total					1502 sqft			8325 Btuh
Envelope Subtotal:								17781 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		Load
	Natural		0.22	12016	1.00	44.0		1780 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att)						(DLM of 0.215)	4204 Btuh
All Zones	Sensible Subtotal All Zones							23765 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

301 NW Coleman Pl
301 NW Coleman Place
Lake City, FL 32025

Project Title:
301 NW Coleman Pl
Building Type: User

3/8/2024

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	23765 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	23765 Btuh

EQUIPMENT

1. Electric Heat Pump	#	25673 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

301 NW Coleman Pl
301 NW Coleman Place
Lake City, FL 32025

Project Title:
301 NW Coleman Pl

3/8/2024

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.	45.0	45.0	0.0	14	16	625 Btuh	
2	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	0.5ft.	4.7	1.6	3.1	14	33	123 Btuh	
3	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	0.5ft.	15.0	2.2	12.8	14	33	449 Btuh	
4	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	0.5ft.	40.0	0.0	40.0	14	14	556 Btuh	
5	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	0.5ft.	9.0	0.0	9.0	14	14	125 Btuh	
6	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	0.5ft.	4.7	0.0	4.7	14	14	65 Btuh	
7	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	0.5ft.	15.0	2.2	12.8	14	33	449 Btuh	
Window Total									133 (sqft)					2393 Btuh	
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load
									Cav/Sheath						
1	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		263.0		3.2		841 Btuh
2	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		220.3		3.2		704 Btuh
3	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		383.6		3.2		1226 Btuh
4	Concrete Blk,Hollow- Ext						0.13		5.0/0.0		134.3		3.2		429 Btuh
5	Frame - Wood - Adj						0.09		13.0/0.0		104.0		2.1		222 Btuh
6	Frame - Wood - Ext						0.09		13.0/0.0		70.7		2.7		191 Btuh
Wall Total									1176 (sqft)					3614 Btuh	
Doors	Type										Area (sqft)		HTM		Load
1	Insulated - Exterior										20.0		16.1		322 Btuh
2	Insulated - Exterior										20.0		16.1		322 Btuh
Door Total									40 (sqft)					644 Btuh	
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load
1	Vented AtticDarkShingle/RB						0.025		38.0/0.0		1652.2		1.24		2055 Btuh
Ceiling Total									1652 (sqft)					2055 Btuh	
Floors	Type								R-Value		Size		HTM		Load
1	Slab On Grade								0.0		1502 (ft-perimeter)		0.0		0 Btuh
Floor Total									1502.0 (sqft)					0 Btuh	
Envelope Subtotal:														8706 Btuh	
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load
	Natural						0.16		12016	1		33.0		866 Btuh	
Internal gain							Occupants		Btuh/occupant		Appliance		Load		
							6	X	230	+	1600		2980 Btuh		
Sensible Envelope Load:														12552 Btuh	
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)										(DGM of 0.370)		4645 Btuh		
	Sensible Load All Zones														17197 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

301 NW Coleman PI
301 NW Coleman Place
Lake City, FL 32025

Project Title:
301 NW Coleman PI

Climate: FL_GAINESVILLE_REGIONAL_A

3/8/2024

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	12552 Btuh
	Sensible Duct Load	4645 Btuh
	Total Sensible Zone Loads	17197 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	17197 Btuh
	Latent infiltration gain (for 54 gr. humidity difference)	1205 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1137 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3541 Btuh
	TOTAL GAIN	20738 Btuh

EQUIPMENT

1. Central Unit	#	19038 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