FORM R405-2020

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Garling Residence	Builder Name:	G-N Construction
Street:	6067 SE CR 252	Permit Office:	Columbia County
City, State, Zip:	Lake City, FL, 32025	Permit Number:	
Owner:		Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Detached
3. Number of units, if multiple family	1
4. Number of Bedrooms	3
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	1802
Conditioned floor area below grade (ft²)	0

7. Windows(160.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.36	160.00 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		4.356 ft
Area Weighted Average SHGC:		0.250

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	1802.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1566.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1566.00 ft²
b. N/A		
c. N/A		
d. N/A		

11. Ceiling Types(1982.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	1982.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	2015 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: 1st Floor	6	451
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	21.8	SEER2:15.50

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	26.1	HSPF2:8.80

16. Hot Water Systems	
a. Electric	Cap: 50 gallons EF: 0.920
b. Conservation features	None
17. Credits	CV, Pstat

Glass/Floor Area: 0.089

Total Proposed Modified Loads: 42.09

Total Baseline Loads: 45.42

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: 7 / 10 / 2023

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

- Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.

- Default duct leakage does not require a Duct Leakage Test Report.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 7.00 ACH50 (R402.4.1.2).

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Garling Residence			Address type:	Street Address
Building Type:	User	Bedrooms:	3	Lot #:	---
Owner:		Conditioned Area:	1802	Block/SubDivision:	---
Builder Home ID:		Total Stories:	1	PlatBook:	---
Builder Name:	G-N Construction	Worst Case:	No	Street:	6067 SE CR 252
Permit Office:	Columbia County	Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:	Yes	City, State, Zip:	Lake City, FL, 32025
Family Type:	Detached	Whole House Fan:	No		
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2023	Shielding:	Suburban		
Comment:					

CLIMATE

√	Design Location	Tmy Site	Design Temp 97.5%	Design Temp 2.5%	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily temp Range
___	FL, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Block1	1802	16218 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	1st Floor	1802	16218	Yes	6	3	Yes	Yes	Yes

FLOORS (Total Exposed Area = 1802 sq.ft.)

√	#	Floor Type	Space	Exposed Perim	Perimeter R-Value	Area	U-Factor	Joist R-Value	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	1st Floor	174	0	1802 ft	0.304	---	0.00	0.00	1.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Gable or shed	Composition shingles	2015 ft²	450 ft²	Medium	Y	0.96	No	0.9	No	0	26.57

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	Full attic	Vented	300	1802 ft²	Y	N

CEILING (Total Exposed Area = 1982 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Flat ceiling under attic(Vented)	1st Floor	38.0	Double Batt	1982.0ft²	0.024	0.11	Wood

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

WALLS (Total Exposed Area = 1566 sq.ft.)

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___	1	W	Exterior	Frame - Wood	1st Floor	13.0	53.0	0	9.0	0	477.0	0.084		0.23	0.75	0 %
___	2	S	Exterior	Frame - Wood	1st Floor	13.0	34.0	0	9.0	0	306.0	0.084		0.23	0.75	0 %
___	3	E	Exterior	Frame - Wood	1st Floor	13.0	53.0	0	9.0	0	477.0	0.084		0.23	0.75	0 %
___	4	N	Exterior	Frame - Wood	1st Floor	13.0	34.0	0	9.0	0	306.0	0.084		0.23	0.75	0 %

DOORS (Total Exposed Area = 38 sq.ft.)

√	#	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___	1	W	Exterior	Insulated	1st Floor	None	0.46	3.00	0	6.00	8	20.0ft²
___	2	S	Exterior	Insulated	1st Floor	None	0.46	2.00	8	6.00	8	17.8ft²

WINDOWS (Total Exposed Area = 160 sq.ft.)

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	Sep. (ft)	Interior Shade	Screen
___	1	W	1	Vinyl	Low-E Double	Y	0.36	0.25	N	N	60.0	4	3.00	5.00	9.5	1.0	None	None
___	2	S	2	Vinyl	Low-E Double	Y	0.36	0.25	N	N	20.0	2	2.00	5.00	1.0	4.0	None	None
___	3	S	2	Vinyl	Low-E Double	Y	0.36	0.25	N	N	6.0	1	2.00	3.00	1.0	5.0	None	None
___	4	E	3	Vinyl	Low-E Double	Y	0.36	0.25	N	N	45.0	3	3.00	5.00	1.5	1.0	None	None
___	5	E	3	Vinyl	Low-E Double	Y	0.36	0.25	N	N	9.0	1	3.00	3.00	1.5	1.0	None	None
___	6	N	4	Vinyl	Low-E Double	Y	0.36	0.25	N	N	20.0	2	2.00	5.00	1.0	4.0	None	None

INFILTRATION

√	#	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___	1	Wholehouse	Proposed ACH(50)	0.00040	1892	103.81	194.88	0.1438	7.0	All	16218 cu ft

MASS

√	#	Mass Type	Area	Thickness	Furniture Fraction	Space
___	1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	1st Floor

HEATING SYSTEM

√	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___	1	Electric Heat Pump	None/Single		HSPF2: 8.80	26.1		0.00	0.00	0.00	sys#1	1

COOLING SYSTEM

√	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___	1	Central Unit	None/Single		SEER2:15.5	21.8	660	0.70	sys#1	1

FORM R405-2020

INPUT SUMMARY CHECKLIST REPORT

HOT WATER SYSTEM

✓	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	1st Floor	0.92 (0.92)	50.00 gal	40 gal	120 deg	Standard	None	12

	Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___ 1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

✓	Duct #	---------Supply--------- Location	R-Value	Area	---------Return--------- Location	R-Value	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN	RLF	HVAC # Heat	Cool
___	1	Attic	6.0	451 ft²	Attic	6.0	90 ft²	Default Leakage	1st Floor	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

Cooling	[ ] Jan	[ ] Feb	[ ] Mar	[ ] Apr	[ ] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[ ] Oct	[ ] Nov	[ ] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[ ] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[ ] Oct	[X] Nov	[X] Dec
Venting	[ ] Jan	[ ] Feb	[X] Mar	[X] Apr	[ ] May	[ ] Jun	[ ] Jul	[ ] Aug	[ ] Sep	[X] Oct	[X] Nov	[ ] Dec

✓	Thermostat Schedule: HERS 2006 Reference Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
___	Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
		PM	80	80	78	78	78	78	78	78	78	78	78	78
___	Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
		PM	78	78	78	78	78	78	78	78	78	78	78	78
___	Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	66	66
___	Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	66	66

FORM R405-2020

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 93

The lower the EnergyPerformance Index, the more efficient the home.

6067 SE CR 252,Lake City,FL,32025

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Detached
3. Number of units, if multiple family		1
4. Number of Bedrooms		3
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		1802
Conditioned floor area below grade (ft²)		0

7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.36	160.00 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		4.356 ft
Area Weighted Average SHGC:		0.250

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	1802.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1566.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1566.00 ft²
b. N/A		
c. N/A		
d. N/A		

11. Ceiling Types(1982.0 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	1982.00 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	2015 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: 1st Floor	6	451
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	21.8	SEER2:15.50

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	26.1	HSPF2:8.80

16. Hot Water Systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CV, Pstat

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: 6067 SE CR 252 City/FL Zip: Lake City,FL,32025

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Envelope Leakage Test Report (Blower Door Test)
Residential Prescriptive, Performance or ERI Method Compliance
2020 Florida Building Code, Energy Conservation, 7th Edition

Jurisdiction:	Permit #:

Job Information

Builder: G-N Construction Community: Lot: NA

Address: 6067 SE CR 252

City: Lake City State: FL Zip: 32025

Air Leakage Test Results *Passing results must meet either the Performance, Prescriptive, or ERI Method*

○ **PRESCRIPTIVE METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 Pascals) in Climate Zones 1 and 2.

● **PERFORMANCE or ERI METHOD-**The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on Form R405-2020 (Performance) or R406-2020 (ERI), section labeled as infiltration, sub-section ACH50.

ACH(50) specified on Form R405-2020-Energy Calc (Performance) or R406-2020 (ERI): 7.000

_____ x 60 ÷ 16218 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

☐ When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.

Method for calculating building volume:

○ Retrieved from architectural plans

● Code software calculated

○ Field measured and calculated

R402.4.1.2 Testing. Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), *Florida Statues*, or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official.* Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope.*

During testing:
1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.

Testing Company

Company Name: _____ Phone: _____

I hereby verify that the above Air Leakage results are in accordance with the 2020 7th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____

Residential System Sizing Calculation

Summary

Project Title:
Garling Residence

6067 SE CR 252
Lake City, FL 32025

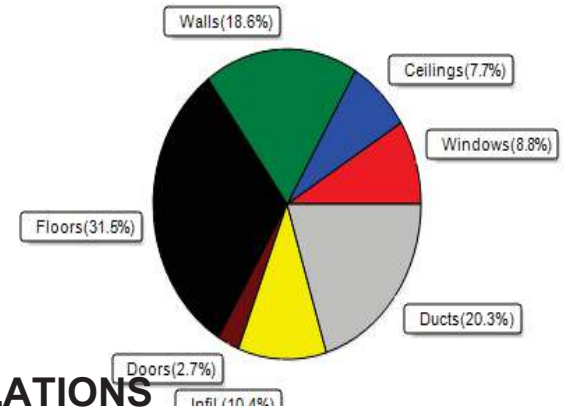
7/10/2023

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(51gr.)					
Winter design temperature(TMY3 99%)	30	F	Summer design temperature(TMY3 99%)	94	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	40	F	Summer temperature difference	19	F
Total heating load calculation	**26107**	**Btuh**	**Total cooling load calculation**	**21826**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	100.0	26107	Sensible (SHR = 0.70)	86.4	15279
Heat Pump + Auxiliary(0.0kW)	100.0	26107	Latent	157.8	6548
			Total (Electric Heat Pump)	100.0	21826

WINTER CALCULATIONS

Winter Heating Load (for 1802 sqft)

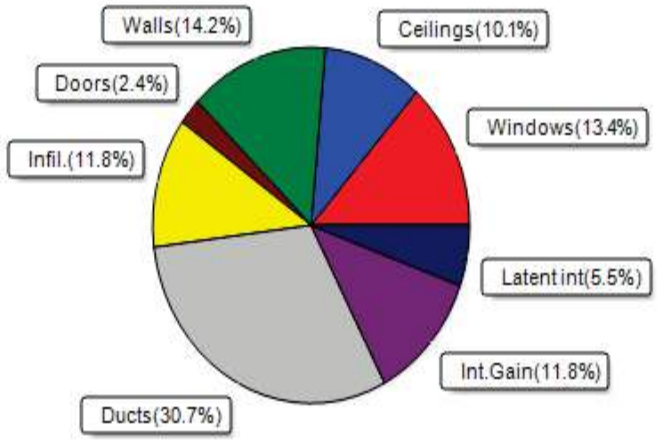
Load component			Load	
Window total	160	sqft	2304	Btuh
Wall total	1368	sqft	4858	Btuh
Door total	38	sqft	695	Btuh
Ceiling total	1982	sqft	2012	Btuh
Floor total	1802	sqft	8213	Btuh
Infiltration	62	cfm	2723	Btuh
Duct loss			5303	Btuh
Subtotal			**26107**	**Btuh**
Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS			**26107**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 1802 sqft)

Load component			Load	
Window total	160	sqft	2933	Btuh
Wall total	1368	sqft	3097	Btuh
Door total	38	sqft	521	Btuh
Ceiling total	1982	sqft	2213	Btuh
Floor total			0	Btuh
Infiltration	47	cfm	970	Btuh
Internal gain			2580	Btuh
Duct gain			5364	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load			0	Btuh
Total sensible gain			**17678**	**Btuh**
Latent gain(ducts)			1339	Btuh
Latent gain(infiltration)			1610	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			1200	Btuh
Total latent gain			**4148**	**Btuh**
TOTAL HEAT GAIN			**21826**	**Btuh**



Powered by ACCA MANUAL J8 8th Edition

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 7 / 10 / 2023

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

6067 SE CR 252
Lake City, FL 32025

Project Title:
Garling Residence
Building Type: User

7/10/2023

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 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 0.25	Vinyl	0.36	W	60.0	14.4	864 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	20.0	14.4	288 Btuh
3	2, NFRC 0.25	Vinyl	0.36	S	6.0	14.4	86 Btuh
4	2, NFRC 0.25	Vinyl	0.36	E	45.0	14.4	648 Btuh
5	2, NFRC 0.25	Vinyl	0.36	E	9.0	14.4	130 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	20.0	14.4	288 Btuh
	Window Total				160.0(sqft)		2304 Btuh

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	397	3.55	1409 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	262	3.55	931 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	423	3.55	1502 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	286	3.55	1015 Btuh
	Wall Total				1368(sqft)		4858 Btuh

Doors	Type	Storm	Ueff.	Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.460)	20	18.4	368 Btuh
2	Insulated - Exterior,	n	(0.460)	18	18.4	327 Btuh
	Door Total			38(sqft)		695Btuh

Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
1	Flat ceil/M/Shing	(0.025)	38.0/0.0	1982	1.0	2012 Btuh
	Ceiling Total			1982(sqft)		2012Btuh

Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	174.0 ft(perim.)	47.2	8213 Btuh
	Floor Total			1802 sqft		8213 Btuh

	Envelope Subtotal:	18082 Btuh

Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.23	16218	1.00	62.2	2723 Btuh

Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.255)	5303 Btuh
All Zones	**Sensible Subtotal All Zones**	**26107 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

6067 SE CR 252
Lake City, FL 32025

Project Title:
Garling Residence
Building Type: User

7/10/2023

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	26107 Btuh 0 Btuh 26107 Btuh

EQUIPMENT

1. Electric Heat Pump	#	26107 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

Project Title:
Garling Residence

6067 SE CR 252
Lake City, FL 32025

7/10/2023

Reference City: Gainesville, FL (Defaults)
Humidity difference: 51gr.

Temperature Difference: 19.0F(TMY3 99%)
Summer Setpoint: 75 °F (Required Manual J default)

Component Loads for Whole House

Window	Type* Panes	SHGC	U	InSh	IS	Ornt	Overhang Len	Hgt	Window Area(sqft) Gross	Shaded	Unshaded	HTM Shaded	Unshaded	Load
1	2 NFRC	0.25, 0.36		No	No	W	9.5ft.	1.0ft.	60.0	60.0	0.0	12	31	726 Btuh
2	2 NFRC	0.25, 0.36		No	No	S	1.0ft.	4.0ft.	20.0	6.7	13.3	12	14	268 Btuh
3	2 NFRC	0.25, 0.36		No	No	S	1.0ft.	5.0ft.	6.0	1.4	4.6	12	14	82 Btuh
4	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	1.0ft.	45.0	2.2	42.8	12	31	1351 Btuh
5	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	1.0ft.	9.0	0.7	8.3	12	31	265 Btuh
6	2 NFRC	0.25, 0.36		No	No	N	1.0ft.	4.0ft.	20.0	0.0	20.0	12	12	242 Btuh
	Window Total								160 (sqft)					2933 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	0.09	13.0/0.0	397.0	2.3	899 Btuh
2	Frame - Wood - Ext	0.09	13.0/0.0	262.2	2.3	593 Btuh
3	Frame - Wood - Ext	0.09	13.0/0.0	423.0	2.3	957 Btuh
4	Frame - Wood - Ext	0.09	13.0/0.0	286.0	2.3	647 Btuh
	Wall Total			1368 (sqft)		3097 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	20.0	13.8	276 Btuh
2	Insulated - Exterior	17.8	13.8	245 Btuh
	Door Total	38 (sqft)		521 Btuh

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/Med/Shingle/RB	0.025	38.0/0.0	1982.0	1.12	2213 Btuh
	Ceiling Total			1982 (sqft)		2213 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	1802 (ft-perimeter)	0.0	0 Btuh
	Floor Total		1802.0 (sqft)		0 Btuh

	Envelope Subtotal:	8764 Btuh

	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
Infiltration	Natural	0.17	16218	1	46.6	970 Btuh

	Occupants		Btuh/occupant		Appliance	Load
Internal gain	6	X	230	+	1200	2580 Btuh

	Sensible Envelope Load:	12314 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.436)	5364 Btuh
	Sensible Load All Zones	**17678 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Garling Residence
Climate:FL_GAINESVILLE_REGIONAL_A

6067 SE CR 252
Lake City, FL 32025

7/10/2023

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**12314**	**Btuh**
	Sensible Duct Load	5364	Btuh
	Total Sensible Zone Loads	**17678**	**Btuh**
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0	Btuh
	Blower	0	Btuh
	Total sensible gain	**17678**	**Btuh**
	Latent infiltration gain (for 51 gr. humidity difference)	1610	Btuh
	Latent ventilation gain	0	Btuh
	Latent duct gain	1339	Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200	Btuh
	Latent other gain	0	Btuh
	Latent total gain	**4148**	**Btuh**
	TOTAL GAIN	**21826**	**Btuh**

EQUIPMENT

1. Central Unit	#	21826 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