

Project Name: Hart Residence Street: 159 SW Governors Glen City, State, Zip: Lake City, FL, 32024 Owner: Isaac & Marlene Hart Design Location: FL, Gainesville	Builder Name: Permit Office: Columbia County Permit Number: Jurisdiction: 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 4 5. Is this a worst case? No 6. Conditioned floor area above grade (ft²) 2701 Conditioned floor area below grade (ft²) 0 7. Windows(355.0 sqft.) Description Area a. U-Factor: Dbl, U=0.36 355.00 ft² SHGC: SHGC=0.25 b. U-Factor: N/A ft² SHGC: c. U-Factor: N/A ft² SHGC: Area Weighted Average Overhang Depth: 5.721 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 2701.00 ft² b. N/A R= ft² c. N/A R= ft²	10. Wall Types(2676.7 sqft.) Insulation Area a. Frame - Wood, Exterior R=13.0 2420.00 ft² b. Frame - Wood, Adjacent R=13.0 256.67 ft² c. N/A d. N/A 11. Ceiling Types(2836.0 sqft.) Insulation Area a. Flat ceiling under att (Vented) R=38.0 2836.00 ft² b. N/A c. N/A 12. Roof(Comp. Shingles, Vented) Deck R=0.0 3246 ft² 13. Ducts, location & insulation level R ft² a. Sup: Attic, Ret: Attic, AH: 1st Floor 6 675 b. c. 14. Cooling Systems kBtu/hr Efficiency a. Central Unit 33.7 SEER2:15.50 15. Heating Systems kBtu/hr Efficiency a. Electric Heat Pump 42.0 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:0.131	Total Proposed Modified Loads: 59.57	PASS
	Total Baseline Loads: 65.49	

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY: _____ DATE: <u>6 / 22 / 2023</u> 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: _____
---	---

- Page 1

INPUT SUMMARY CHECKLIST REPORT

PROJECT													
Title:	Hart Residence			Bedrooms:	4	Address type:	Street Address						
Building Type:	User			Conditioned Area:	2701	Lot #:	---						
Owner:	Isaac & Marlene Hart			Total Stories:	1	Block/SubDivision:	---						
Builder Home ID:				Worst Case:	No	PlatBook:	---						
Builder Name:				Rotate Angle:	0	Street:	159 SW Governors Glen						
Permit Office:	Columbia County			Cross Ventilation:	Yes	County:	Columbia						
Jurisdiction:				Whole House Fan:	No	City, State, Zip:	Lake City, FL, 32024						
Family Type:	Detached			Terrain:	Suburban								
New/Existing:	New (From Plans)			Shielding:	Suburban								
Year Construct:	2023												
Comment:													
CLIMATE													
✓ Design Location	Tmy Site		Design Temp		Int Design Temp		Heating		Design		Daily temp		
			97.5%	2.5%	Winter	Summer	Degree Days		Moisture		Range		
___ FL, Gainesville	FL_GAINESVILLE_REGIONA		32	92	70	75	1305.5		51		Medium		
BLOCKS													
✓ Number	Name	Area	Volume										
___ 1	Block1	2701	24309 cu ft										
SPACES													
✓ Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated				
___ 1	1st Floor	2701	24309	Yes	8	4	Yes	Yes	Yes				
FLOORS (Total Exposed Area = 2701 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	272	0	2701 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	3246 ft²	504 ft²	Medium	Y	0.96	No	0.9	No	0	33.69	
ATTIC													
✓ #	Type	Ventilation	Vent Ratio (1 in)		Area	RBS	IRCC						
___ 1	Partial cathedral ceiling	Vented	300		2701 ft²	Y	N						
CEILING (Total Exposed Area = 2836 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	2836.0ft²	0.024	0.11	Wood					

INPUT SUMMARY CHECKLIST REPORT

WALLS															(Total Exposed Area = 2677 sq.ft.)			
✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade			
___ 1	S	Exterior	Frame - Wood	1st Floor	13.0	22.0	4	10.0	0	223.3	0.084		0.23	0.75	0 %			
___ 2	W	Exterior	Frame - Wood	1st Floor	13.0	10.0	0	10.0	0	100.0	0.084		0.23	0.75	0 %			
___ 3	S	Exterior	Frame - Wood	1st Floor	13.0	14.0	0	10.0	0	140.0	0.084		0.23	0.75	0 %			
___ 4	E	Exterior	Frame - Wood	1st Floor	13.0	12.0	0	10.0	0	120.0	0.084		0.23	0.75	0 %			
___ 5	S	Exterior	Frame - Wood	1st Floor	13.0	6.0	0	10.0	0	60.0	0.084		0.23	0.75	0 %			
___ 6	E	Exterior	Frame - Wood	1st Floor	13.0	24.0	0	10.0	0	240.0	0.084		0.23	0.75	0 %			
___ 7	N	Exterior	Frame - Wood	1st Floor	13.0	6.0	0	10.0	0	60.0	0.084		0.23	0.75	0 %			
___ 8	E	Exterior	Frame - Wood	1st Floor	13.0	14.0	8	10.0	0	146.7	0.084		0.23	0.75	0 %			
___ 9	N	Exterior	Frame - Wood	1st Floor	13.0	14.0	0	10.0	0	140.0	0.084		0.23	0.75	0 %			
___ 10	W	Exterior	Frame - Wood	1st Floor	13.0	10.0	0	10.0	0	100.0	0.084		0.23	0.75	0 %			
___ 11	N	Exterior	Frame - Wood	1st Floor	13.0	18.0	0	10.0	0	180.0	0.084		0.23	0.75	0 %			
___ 12	E	Exterior	Frame - Wood	1st Floor	13.0	10.0	0	10.0	0	100.0	0.084		0.23	0.75	0 %			
___ 13	N	Exterior	Frame - Wood	1st Floor	13.0	12.0	0	10.0	0	120.0	0.084		0.23	0.75	0 %			
___ 14	E	Exterior	Frame - Wood	1st Floor	13.0	3.0	0	10.0	0	30.0	0.084		0.23	0.75	0 %			
___ 15	N	Exterior	Frame - Wood	1st Floor	13.0	15.0	4	10.0	0	153.3	0.084		0.23	0.75	0 %			
___ 16	W	Exterior	Frame - Wood	1st Floor	13.0	16.0	4	10.0	0	163.3	0.084		0.23	0.75	0 %			
___ 17	N	Exterior	Frame - Wood	1st Floor	13.0	4.0	8	10.0	0	46.7	0.084		0.23	0.75	0 %			
___ 18	W	Exterior	Frame - Wood	1st Floor	13.0	29.0	8	10.0	0	296.7	0.084		0.23	0.75	0 %			
___ 19	S	Garage	Frame - Wood	1st Floor	13.0	25.0	8	10.0	0	256.7	0.084		0.23	0.75	0 %			

DOORS												(Total Exposed Area = 48 sq.ft.)	
✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area		
___ 1	S	Exterior	Insulated	1st Floor	None	0.46	3.00	0	8.00	0	24.0ft²		
___ 2	S	Garage	Insulated	1st Floor	None	0.46	3.00	0	8.00	0	24.0ft²		

WINDOWS																	(Total Exposed Area = 355 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	S	1	Vinyl	Low-E Double	Y	0.36	0.25	N	N	18.0	1	3.00	6.00	8.5	1.0	None	None	
___ 2	S	3	Vinyl	Low-E Double	Y	0.36	0.25	N	N	33.0	2	3.00	5.50	1.0	0.5	None	None	
___ 3	E	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	4.0	1	2.00	2.00	1.5	1.0	None	None	
___ 4	E	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	4.0	1	4.00	1.00	1.5	1.0	None	None	
___ 5	N	9	Vinyl	Low-E Double	Y	0.36	0.25	N	N	18.0	1	3.00	6.00	1.0	2.0	None	None	
___ 6	N	11	Vinyl	Low-E Double	Y	0.36	0.25	N	N	72.0	4	3.00	6.00	16.5	1.0	None	None	
___ 7	E	12	TIM	Low-E Double	Y	0.36	0.25	N	N	48.0	2	3.00	8.00	8.5	1.0	None	None	
___ 8	N	13	Vinyl	Low-E Double	Y	0.36	0.25	N	N	54.0	3	3.00	6.00	1.5	1.0	None	None	
___ 9	N	15	Vinyl	Low-E Double	Y	0.36	0.25	N	N	36.0	2	3.00	6.00	1.0	2.0	None	None	
___ 10W		16	Vinyl	Low-E Double	Y	0.36	0.25	N	N	20.0	2	2.00	5.00	1.5	1.0	None	None	
___ 11W		18	Vinyl	Low-E Double	Y	0.36	0.25	N	N	12.0	4	2.00	1.50	1.5	1.0	None	None	
___ 12W		18	Vinyl	Low-E Double	Y	0.36	0.25	N	N	20.0	1	4.00	5.00	1.5	1.0	None	None	
___ 13W		18	Vinyl	Low-E Double	Y	0.36	0.25	N	N	16.0	1	4.00	4.00	1.5	1.0	None	None	

INFILTRATION										
✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00040	2836	155.59	292.11	0.1438	7.0	All	24309 cu ft

INPUT SUMMARY CHECKLIST REPORT

GARAGE														
✓ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation									
___ 1	796 ft²	796 ft²	91 ft	10 ft	1									
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 Entry	HeatPump---- Power	Volt	Current	Ducts	Block			
___ 1	Electric Heat Pump	None/Single		HSPF2: 8.80	42.0		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	33.7	1020	0.70	sys#1	1					
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	675 ft²	Attic	6.0	135 ft²	Default Leakage	1st Floor	(Default)	(Default)			1 1	
TEMPERATURES														
Programable Thermostat: Y Cooling ☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☒ Jun ☒ Jul ☒ Aug ☒ Sep ☐ Oct ☐ Nov ☐ Dec Heating ☒ Jan ☒ Feb ☒ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☒ Nov ☒ Dec Venting ☐ Jan ☐ Feb ☒ Mar ☒ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☒ Oct ☒ Nov ☐ Dec														
✓	Thermostat Schedule: HERS 2006 Reference	Hours												
Schedule Type	1	2	3	4	5	6	7	8	9	10	11	12		
___ Cooling (WD)	AM PM	78 80	78 80	78 78	78 78	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78	
___ Cooling (WEH)	AM PM	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	

INPUT SUMMARY CHECKLIST REPORT**TEMPERATURES(Continued)**

___ 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

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 91

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

159 SW Governors Glen,Lake City,FL,32024

1. New construction or existing	New (From Plans)	10. Wall Types(2676.7 sqft.)	Insulation	Area
2. Single family or multiple family	Detached	a. Frame - Wood, Exterior	R=13.0	2420.00 ft ²
3. Number of units, if multiple family	1	b. Frame - Wood, Adjacent	R=13.0	256.67 ft ²
4. Number of Bedrooms	4	c. N/A		
5. Is this a worst case?	No	d. N/A		
6. Conditioned floor area above grade (ft ²)	2701	11. Ceiling Types(2836.0 sqft.)	Insulation	Area
Conditioned floor area below grade (ft ²)	0	a. Flat ceiling under att (Vented)	R=38.0	2836.00 ft ²
7. Windows**	Description	b. N/A		
a. U-Factor:	Dbl, U=0.36	c. N/A		
SHGC:	SHGC=0.25	12. Roof(Comp. Shingles, Vented) Deck	R=0.0	3246 ft ²
b. U-Factor:	N/A	13. Ducts, location & insulation level	R	ft ²
SHGC:		a. Sup: Attic, Ret: Attic, AH: 1st Floor	6	675
c. U-Factor:	N/A	b.		
SHGC:		c.		
Area Weighted Average Overhang Depth:	5.721 ft	14. Cooling Systems	kBtu/hr	Efficiency
Area Weighted Average SHGC:	0.250	a. Central Unit	33.7	SEER2:15.50
8. Skylights	Description	15. Heating Systems	kBtu/hr	Efficiency
U-Factor:(AVG)	N/A	a. Electric Heat Pump	42.0	HSPF2:8.80
SHGC(AVG):	N/A	16. Hot Water Systems		
9. Floor Types	Insulation	a. Electric	Cap: 50 gallons	
a. Slab-On-Grade Edge Insulation	R= 0.0		EF: 0.920	
b. N/A	R=	b. Conservation features		
c. N/A	R=			
		17. Credits	None	
			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: 159 SW Governors Glen

City/FL Zip: Lake City,FL,32024



*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:	Community:	Lot: NA
Address: 159 SW Governors Glen		
City: Lake City	State: FL	Zip: 32024
Air Leakage Test Results <i>Passing results must meet either the Performance, Prescriptive, or ERI Method</i>		
☐ 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		
$\frac{\text{CFM}(50) \times 60}{\text{Building Volume}} = \text{ACH}(50)$ 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 <i>(7) Florida Statutes</i> 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 <i>code official</i>. Testing shall be performed at any time after creation of all penetrations of the <i>building thermal envelope</i>. 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

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence

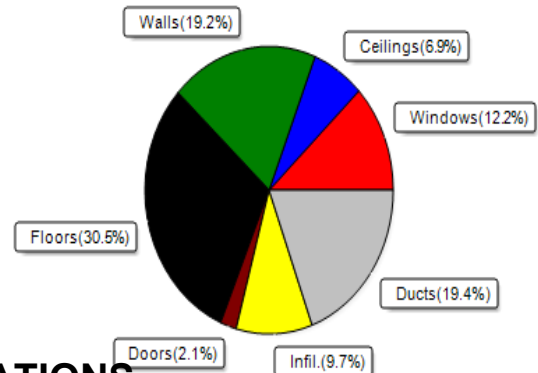
6/22/2023

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	42025 Btuh	Total cooling load calculation	33655 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 42025	Sensible (SHR = 0.70)	85.3 23559
Heat Pump + Auxiliary(0.0kW)	100.0 42025	Latent	167.6 10097
		Total (Electric Heat Pump)	100.0 33655

WINTER CALCULATIONS

Winter Heating Load (for 2701 sqft)

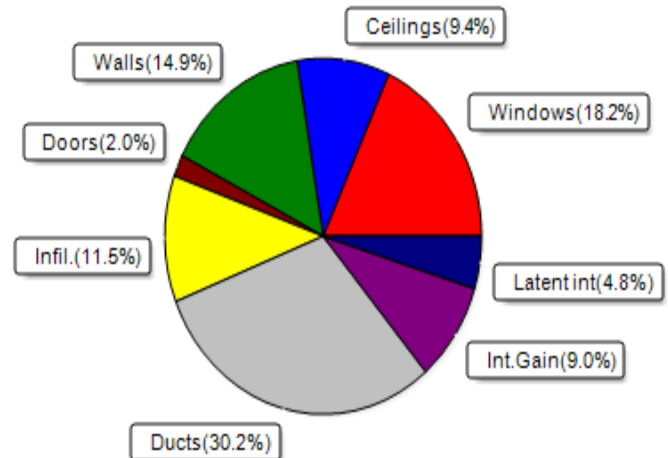
Load component	Load
Window total 355 sqft	5112 Btuh
Wall total 2274 sqft	8072 Btuh
Door total 48 sqft	883 Btuh
Ceiling total 2836 sqft	2879 Btuh
Floor total 2701 sqft	12838 Btuh
Infiltration 93 cfm	4081 Btuh
Duct loss	8159 Btuh
Subtotal	42025 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	42025 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2701 sqft)

Load component	Load
Window total 355 sqft	6134 Btuh
Wall total 2274 sqft	5012 Btuh
Door total 48 sqft	662 Btuh
Ceiling total 2836 sqft	3167 Btuh
Floor total	0 Btuh
Infiltration 70 cfm	1454 Btuh
Internal gain	3040 Btuh
Duct gain	8163 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	27633 Btuh
Latent gain(ducts)	2010 Btuh
Latent gain(infiltration)	2413 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	1600 Btuh
Total latent gain	6023 Btuh
TOTAL HEAT GAIN	33655 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 6 / 22 / 2023

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence
Building Type: User

6/22/2023

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	S	18.0		14.4	259 Btuh
2	2, NFRC 0.25	Vinyl	0.36	S	33.0		14.4	475 Btuh
3	2, NFRC 0.25	Vinyl	0.36	E	4.0		14.4	58 Btuh
4	2, NFRC 0.25	Vinyl	0.36	E	4.0		14.4	58 Btuh
5	2, NFRC 0.25	Vinyl	0.36	N	18.0		14.4	259 Btuh
6	2, NFRC 0.25	Vinyl	0.36	N	72.0		14.4	1037 Btuh
7	2, NFRC 0.25	TIM	0.36	E	48.0		14.4	691 Btuh
8	2, NFRC 0.25	Vinyl	0.36	N	54.0		14.4	778 Btuh
9	2, NFRC 0.25	Vinyl	0.36	N	36.0		14.4	518 Btuh
10	2, NFRC 0.25	Vinyl	0.36	W	20.0		14.4	288 Btuh
11	2, NFRC 0.25	Vinyl	0.36	W	12.0		14.4	173 Btuh
12	2, NFRC 0.25	Vinyl	0.36	W	20.0		14.4	288 Btuh
13	2, NFRC 0.25	Vinyl	0.36	W	16.0		14.4	230 Btuh
Window Total					355.0(sqft)			5112 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	181		3.55	644 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	100		3.55	355 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	107		3.55	380 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	120		3.55	426 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	60		3.55	213 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	232		3.55	824 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	60		3.55	213 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	147		3.55	521 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	122		3.55	433 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	100		3.55	355 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	108		3.55	383 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	52		3.55	185 Btuh
13	Frame - Wood	- Ext	(0.089)	13.0/0.0	66		3.55	234 Btuh
14	Frame - Wood	- Ext	(0.089)	13.0/0.0	30		3.55	107 Btuh
15	Frame - Wood	- Ext	(0.089)	13.0/0.0	117		3.55	417 Btuh
16	Frame - Wood	- Ext	(0.089)	13.0/0.0	143		3.55	509 Btuh
17	Frame - Wood	- Ext	(0.089)	13.0/0.0	47		3.55	166 Btuh
18	Frame - Wood	- Ext	(0.089)	13.0/0.0	249		3.55	883 Btuh
19	Frame - Wood	- Adj	(0.089)	13.0/0.0	233		3.55	826 Btuh
Wall Total					2274(sqft)			8072 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		24		18.4	442 Btuh
2	Insulated - Garage, n		(0.460)		24		18.4	442 Btuh
Door Total					48(sqft)			883Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence
Building Type: User

6/22/2023

Ceilings 1	Type/Color/Surface Flat ceil/M/Shing Ceiling Total	Ueff. (0.025)	R-Value 38.0/0.0	Area X 2836 2836(sqft)	HTM= 1.0	Load 2879 Btuh 2879Btuh
Floors 1	Type Slab On Grade Floor Total	Ueff. (1.180)	R-Value 0.0	Size X 272.0 ft(perim.) 2701 sqft	HTM= 47.2	Load 12838 Btuh 12838 Btuh
	Envelope Subtotal:					29785 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.23	Volume(cuft) 24309	Wall Ratio 1.00	CFM= 93.2	4081 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.241)					8159 Btuh
All Zones	Sensible Subtotal All Zones					42025 Btuh

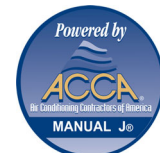
WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss Total Heat Loss	(Ex:0 cfm; Sup:0 cfm)	42025 Btuh 0 Btuh 42025 Btuh
---------------------------	---	-----------------------	------------------------------------

EQUIPMENT

1. Electric Heat Pump	#	42025 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

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence

6/22/2023

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*						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		8.5ft.	1.0ft.	18.0	18.0	0.0	12	14	218 Btuh	
2	2 NFRC	0.25, 0.36	No	No	S		1.0ft.	0.5ft.	33.0	31.1	1.9	12	14	403 Btuh	
3	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	4.0	0.5	3.5	12	31	115 Btuh	
4	2 NFRC	0.25, 0.36	No	No	E		1.5ft.	1.0ft.	4.0	1.0	3.0	12	31	105 Btuh	
5	2 NFRC	0.25, 0.36	No	No	N		1.0ft.	2.0ft.	18.0	0.0	18.0	12	12	218 Btuh	
6	2 NFRC	0.25, 0.36	No	No	N		16.5ft.	1.0ft.	72.0	0.0	72.0	12	12	871 Btuh	
7	2 NFRC	0.25, 0.36	No	No	E		8.5ft.	1.0ft.	48.0	36.3	11.7	12	31	801 Btuh	
8	2 NFRC	0.25, 0.36	No	No	N		1.5ft.	1.0ft.	54.0	0.0	54.0	12	12	653 Btuh	
9	2 NFRC	0.25, 0.36	No	No	N		1.0ft.	2.0ft.	36.0	0.0	36.0	12	12	436 Btuh	
10	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	20.0	1.0	19.0	12	31	600 Btuh	
11	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	12.0	2.0	10.0	12	31	334 Btuh	
12	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	20.0	1.0	19.0	12	31	600 Btuh	
13	2 NFRC	0.25, 0.36	No	No	W		1.5ft.	1.0ft.	16.0	1.0	15.0	12	31	477 Btuh	
	Excursion													303 Btuh	
	Window Total								355 (sqft)					6134 Btuh	
Walls	Type	U-Value				R-Value		Area(sqft)			HTM		Load		
							Cav/Sheath								
1	Frame - Wood - Ext						0.09	13.0/0.0	181.3			2.3		410 Btuh	
2	Frame - Wood - Ext						0.09	13.0/0.0	100.0			2.3		226 Btuh	
3	Frame - Wood - Ext						0.09	13.0/0.0	107.0			2.3		242 Btuh	
4	Frame - Wood - Ext						0.09	13.0/0.0	120.0			2.3		272 Btuh	
5	Frame - Wood - Ext						0.09	13.0/0.0	60.0			2.3		136 Btuh	
6	Frame - Wood - Ext						0.09	13.0/0.0	232.0			2.3		525 Btuh	
7	Frame - Wood - Ext						0.09	13.0/0.0	60.0			2.3		136 Btuh	
8	Frame - Wood - Ext						0.09	13.0/0.0	146.7			2.3		332 Btuh	
9	Frame - Wood - Ext						0.09	13.0/0.0	122.0			2.3		276 Btuh	
10	Frame - Wood - Ext						0.09	13.0/0.0	100.0			2.3		226 Btuh	
11	Frame - Wood - Ext						0.09	13.0/0.0	108.0			2.3		244 Btuh	
12	Frame - Wood - Ext						0.09	13.0/0.0	52.0			2.3		118 Btuh	
13	Frame - Wood - Ext						0.09	13.0/0.0	66.0			2.3		149 Btuh	
14	Frame - Wood - Ext						0.09	13.0/0.0	30.0			2.3		68 Btuh	
15	Frame - Wood - Ext						0.09	13.0/0.0	117.3			2.3		266 Btuh	
16	Frame - Wood - Ext						0.09	13.0/0.0	143.3			2.3		324 Btuh	
17	Frame - Wood - Ext						0.09	13.0/0.0	46.7			2.3		106 Btuh	
18	Frame - Wood - Ext						0.09	13.0/0.0	248.7			2.3		563 Btuh	
19	Frame - Wood - Adj						0.09	13.0/0.0	232.7			1.7		392 Btuh	
	Wall Total								2274 (sqft)					5012 Btuh	
Doors	Type								Area (sqft)			HTM		Load	
1	Insulated - Exterior								24.0			13.8		331 Btuh	
2	Insulated - Garage								24.0			13.8		331 Btuh	
	Door Total								48 (sqft)					662 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	2836.0			1.12		3167 Btuh	
	Ceiling Total								2836 (sqft)					3167 Btuh	
Floors	Type					R-Value			Size			HTM		Load	
1	Slab On Grade							0.0	2701 (ft-perimeter)			0.0		0 Btuh	
	Floor Total								2701.0 (sqft)					0 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence

Climate:FL_GAINESVILLE_REGIONAL_A

6/22/2023

	Envelope Subtotal:					14975 Btuh
Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.17	24309	1	69.9	1454 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		8	X 230	+	1200	3040 Btuh
	Sensible Envelope Load:					19469 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.419)					8163 Btuh
	Sensible Load All Zones					27633 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Isaac & Marlene Hart
159 SW Governors Glen
Lake City, FL 32024

Project Title:
Hart Residence

Climate:FL_GAINESVILLE_REGIONAL_A

6/22/2023

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	19469 Btuh
	Sensible Duct Load	8163 Btuh
	Total Sensible Zone Loads	27633 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	27633 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2413 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	2010 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	6023 Btuh
	TOTAL GAIN	33655 Btuh

EQUIPMENT

1. Central Unit	#	33655 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