

Residential System Sizing Calculation

Summary

SW BEAVER STREET
Ft White, FL 32038

Project Title:
Aaron & Amanda Young

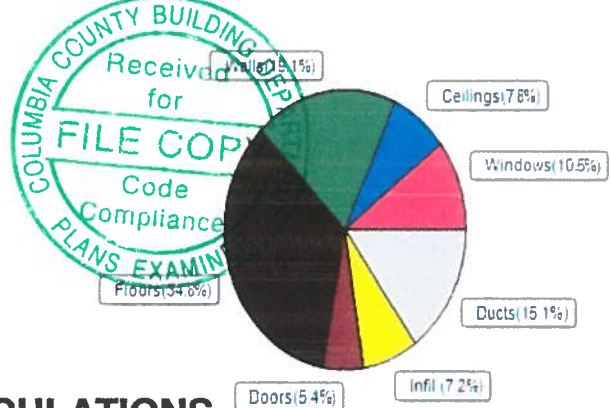
5/2/2019

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	29531 Btuh	Total cooling load calculation	21437 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	121.9 36000	Sensible (SHR = 0.85)	170.8 30600
Heat Pump + Auxiliary(0.0kW)	121.9 36000	Latent	153.4 5400
		Total (Electric Heat Pump)	167.9 36000

WINTER CALCULATIONS

Winter Heating Load (for 1800 sqft)

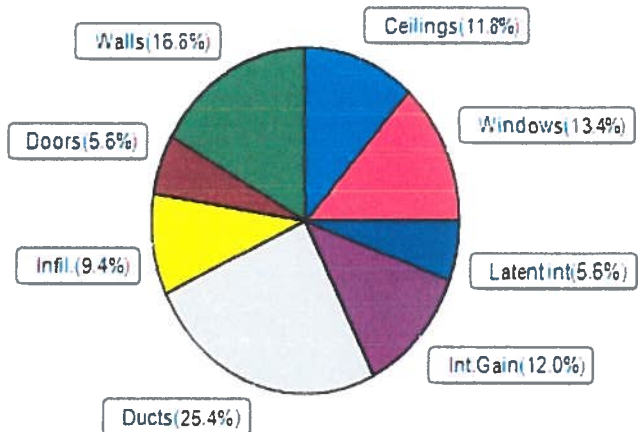
Load component		Load
Window total	236 sqft	3115 Btuh
Wall total	1636 sqft	5643 Btuh
Door total	87 sqft	1595 Btuh
Ceiling total	1800 sqft	2293 Btuh
Floor total	1800 sqft	10290 Btuh
Infiltration	49 cfm	2133 Btuh
Duct loss		4463 Btuh
Subtotal		29531 Btuh
Ventilation	0 cfm	0 Btuh
TOTAL HEAT LOSS		29531 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1800 sqft)

Load component		Load
Window total	236 sqft	2870 Btuh
Wall total	1636 sqft	3597 Btuh
Door total	87 sqft	1196 Btuh
Ceiling total	1800 sqft	2522 Btuh
Floor total		0 Btuh
Infiltration	37 cfm	760 Btuh
Internal gain		2580 Btuh
Duct gain		4390 Btuh
Sens. Ventilation	0 cfm	0 Btuh
Blower Load		0 Btuh
Total sensible gain		17916 Btuh
Latent gain(ducts)		1060 Btuh
Latent gain(infiltration)		1261 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		1200 Btuh
Total latent gain		3521 Btuh
TOTAL HEAT GAIN		21437 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

[Signature]
5-3-19

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

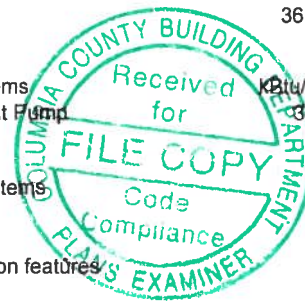
Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Aaron & Amanda Young Street: SW BEAVER STREET City, State, Zip: Ft White, FL, 32038 Owner: Design Location: FL, Gainesville	Builder Name: IC Construction Permit Office: Permit Number: Jurisdiction: County: Columbia (Florida Climate Zone 2)
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1. New construction or existing New (From Plans) 2. Single family or multiple family Single-family 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) 1800 Conditioned floor area below grade (ft²) 0 7. Windows(236.0 sqft.) Description Area a. U-Factor: Dbl, U=0.33 236.00 ft² SHGC: SHGC=0.22 b. U-Factor: N/A ft² SHGC: c. U-Factor: N/A ft² SHGC: d. U-Factor: N/A ft² SHGC: Area Weighted Average Overhang Depth: 6.314 ft. Area Weighted Average SHGC: 0.220 8. Floor Types (1800.0 sqft.) Insulation Area a. Slab-On-Grade Edge Insulation R=0.0 1800.00 ft² b. N/A R= ft² c. N/A R= ft²	9. Wall Types (1959.0 sqft.) Insulation Area a. Frame - Wood, Exterior R=13.0 1959.00 ft² b. N/A R= ft² c. N/A R= ft² d. N/A R= ft² 10. Ceiling Types (1800.0 sqft.) Insulation Area a. Under Attic (Vented) R=30.0 1800.00 ft² b. N/A R= ft² c. N/A R= ft² 11. Ducts R ft² a. Sup: Attic, Ret: Attic, AH: Main 6 360 12. Cooling systems kBtu/hr Efficiency a. Central Unit 36.0 SEER:14.00 13. Heating systems kBtu/hr Efficiency a. Electric Heat Pump 36.0 HSPF:8.50 14. Hot water systems Cap: 40 gallons a. Electric EF: 0.920 b. Conservation features None 15. Credits CF, Pstat
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Glass/Floor Area: 0.131	Total Proposed Modified Loads: 53.23	PASS
	Total Baseline Loads: 53.73	

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. PREPARED BY: _____ DATE: _____ 5-3-19 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: _____
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- 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.
- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 5.00 ACH50 (R402.4.1.2).

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Aaron & Amanda Young	Bedrooms:	3	Address Type:	Street Address
Building Type:	User	Conditioned Area:	1800	Lot #	
Owner Name:		Total Stories:	1	Block/Subdivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:	IC Construction	Rotate Angle:	0	Street:	SW BEAVER STREET
Permit Office:		Cross Ventilation:		County:	Columbia
Jurisdiction:		Whole House Fan:		City, State, Zip:	Ft White , FL , 32038
Family Type:	Single-family				
New/Existing:	New (From Plans)				
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_REGI	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	1800	16200

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	1800	16200	Yes	6	3	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	Main	218 ft	0	1800 ft²	----	0.33	0.33	0.34

ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	2013 ft²	0 ft²	Medium	N	0.85	No	0.9	No	0	26.6

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	1800 ft²	N	N

CEILING

✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	Main	30	Blown	1800 ft²	0.11	Wood

INPUT SUMMARY CHECKLIST REPORT

WALLS

✓ #	Omt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
1	N	Exterior	Frame - Wood	Main	13	51	6	9		463.5 ft²	0.625	0.23	0.75	0
2	W	Exterior	Frame - Wood	Main	13	10		9		90.0 ft²	0.625	0.23	0.75	0
3	N	Exterior	Frame - Wood	Main	13	12	10	9		115.5 ft²	0.625	0.23	0.75	0
4	E	Exterior	Frame - Wood	Main	13	38		9		342.0 ft²	0.625	0.23	0.75	0
5	S	Exterior	Frame - Wood	Main	13	12	10	9		115.5 ft²	0.625	0.23	0.75	0
6	W	Exterior	Frame - Wood	Main	13	3	4	9		30.0 ft²	0.625	0.23	0.75	0
7	S	Exterior	Frame - Wood	Main	13	7	2	9		64.5 ft²	0.625	0.23	0.75	0
8	E	Exterior	Frame - Wood	Main	13	3	4	9		30.0 ft²	0.625	0.23	0.75	0
9	S	Exterior	Frame - Wood	Main	13	12	10	9		115.5 ft²	0.625	0.23	0.75	0
10	W	Exterior	Frame - Wood	Main	13	5		9		45.0 ft²	0.625	0.23	0.75	0
11	S	Exterior	Frame - Wood	Main	13	7	6	9		67.5 ft²	0.625	0.23	0.75	0
12	E	Exterior	Frame - Wood	Main	13	3	2	9		28.5 ft²	0.625	0.23	0.75	0
13	S	Exterior	Frame - Wood	Main	13	14	8	9		132.0 ft²	0.625	0.23	0.75	0
14	W	Exterior	Frame - Wood	Main	13	2	4	9		21.0 ft²	0.625	0.23	0.75	0
15	S	Exterior	Frame - Wood	Main	13	9	4	9		84.0 ft²	0.625	0.23	0.75	0
16	W	Exterior	Frame - Wood	Main	13	23	10	9		214.5 ft²	0.625	0.23	0.75	0

DOORS

✓ #	Omt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
1	N	Insulated	Main	None	.46	3		6	8	20 ft²
2	N	Insulated	Main	None	.46	5		6	8	33.3 ft²
3	S	Insulated	Main	None	.46	5		6	8	33.3 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation.

✓ #	Omt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Separation	Int Shade	Screening
1	N	1	Vinyl	Low-E Double	Yes	0.33	0.22	N	20.0 ft²	11 ft 6 in	1 ft 4 in	None	None
2	N	1	Vinyl	Low-E Double	Yes	0.33	0.22	N	36.0 ft²	11 ft 6 in	1 ft 4 in	None	None
3	N	3	Vinyl	Low-E Double	Yes	0.33	0.22	N	36.0 ft²	1 ft 6 in	1 ft 4 in	None	None
4	E	4	Vinyl	Low-E Double	Yes	0.33	0.22	N	6.0 ft²	1 ft 6 in	1 ft 4 in	None	None
5	S	5	Vinyl	Low-E Double	Yes	0.33	0.22	N	36.0 ft²	9 ft 6 in	1 ft 4 in	None	None
6	S	9	Vinyl	Low-E Double	Yes	0.33	0.22	N	36.0 ft²	9 ft 6 in	1 ft 4 in	None	None
7	S	11	Vinyl	Low-E Double	Yes	0.33	0.22	N	6.0 ft²	1 ft 6 in	1 ft 4 in	None	None
8	S	13	Vinyl	Low-E Double	Yes	0.33	0.22	N	36.0 ft²	1 ft 6 in	1 ft 4 in	None	None
9	S	15	Vinyl	Low-E Double	Yes	0.33	0.22	N	12.0 ft²	1 ft 6 in	1 ft 4 in	None	None
10	W	16	Vinyl	Low-E Double	Yes	0.33	0.22	N	12.0 ft²	1 ft 6 in	1 ft 4 in	None	None

INPUT SUMMARY CHECKLIST REPORT

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000286	1350	74.11	139.38	.1128	5

HEATING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
✓	1	Electric Heat Pump/	None	HSPF:8.5	36 kBtu/hr	1	sys#1

COOLING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
✓	1	Central Unit/	None	SEER: 14	36 kBtu/hr	1080 cfm	0.85	1	sys#1

HOT WATER SYSTEM

✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
✓	1	Electric	None	Main	0.92	40 gal	60 gal	120 deg	None

SOLAR HOT WATER SYSTEM

✓	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
✓	None	None			ft²		

DUCTS

✓	#	--- Supply --- Location	R-Value	Area	--- Return --- Location	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	Cool
✓	1	Attic	6	360 ft²	Attic	90 ft²	Default Leakage	Main	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y						Ceiling Fans:									
Cooling	[] Jan	[] Feb	[] Mar	[] Apr	[] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[] Oct	[] Nov	[] Dec			
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[X] Oct	[X] Nov	[X] Dec			
Venting	[] Jan	[] Feb	[X] Mar	[X] Apr	[] May	[] Jun	[] Jul	[] Aug	[] Sep	[X] Oct	[X] Nov	[] Dec			

INPUT SUMMARY CHECKLIST REPORT

Thermostat Schedule: HERS 2006 Reference		Hours											
Schedule Type		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
MASS													
Mass Type		Area		Thickness		Furniture Fraction		Space					
Default(8 lbs/sq.ft.		0 ft ²		0 ft		0.3		Main					