

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: 1305039
 Street: 284 Montique Ct.
 City, State, Zip: Lake City, FL,
 Owner: Watson Res
 Design Location: FL, Gainesville

Builder Name: Woodman Park
 Permit Office:
 Permit Number:
 Jurisdiction: 221006

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	4
5. Is this a worst case?	Yes
6. Conditioned floor area above grade (ft ²)	3799
Conditioned floor area below grade (ft ²)	0
7. Windows(473.2 sqft.)	Description Area
a. U-Factor:	Dbl, U=0.35 425.17 ft ²
SHGC:	SHGC=0.35
b. U-Factor:	Dbl, U=0.87 48.00 ft ²
SHGC:	SHGC=0.66
c. U-Factor:	N/A ft ²
SHGC:	
d. U-Factor:	N/A ft ²
SHGC:	
Area Weighted Average Overhang Depth:	0.983 ft.
Area Weighted Average SHGC:	0.381
8. Floor Types (3799.0 sqft.)	Insulation Area
a. Slab-On-Grade Edge Insulation	R=0.0 2815.00 ft ²
b. Floor Over Other Space	R=0.0 984.00 ft ²
c. N/A	R= ft ²

9. Wall Types (3738.1 sqft.)	Insulation Area
a. Frame - Wood, Exterior	R=13.0 3738.10 ft ²
b. N/A	R= ft ²
c. N/A	R= ft ²
d. N/A	R= ft ²
10. Ceiling Types (3499.0 sqft.)	Insulation Area
a. Under Attic (Vented)	R=30.0 3499.00 ft ²
b. N/A	R= ft ²
c. N/A	R= ft ²
11. Ducts	R ft ²
a. Sup: Attic, Ret: Attic, AH: 1st floor	6 759.8
12. Cooling systems	kBtu/hr Efficiency
a. Central Unit	82.0 SEER:13.00
13. Heating systems	kBtu/hr Efficiency
a. Electric Heat Pump	82.0 HSPF:7.70
14. Hot water systems	Cap: 50 gallons
a. Electric	EF: 0.920
b. Conservation features	
None	
15. Credits	Pstat

Glass/Floor Area: 0.125

Total Proposed Modified Loads: 58.55
 Total Standard Reference Loads: 75.38

PASS

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

PREPARED BY: EVAN BEANLEY
 DATE: 2013-05-21

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 completion of a Florida Air Barrier and Insulation Inspection Checklist



PROJECT

Title: 1305039	Bedrooms: 4	Address Type: Street Address
Building Type: User	Conditioned Area: 3799	Lot #
Owner: Watson Res	Total Stories: 2	Block/SubDivision:
# of Units: 1	Worst Case: Yes	PlatBook:
Builder Name: Woodman Park	Rotate Angle: 270	Street: 284 Montique Ct.
Permit Office:	Cross Ventilation:	County: Columbia
Jurisdiction:	Whole House Fan:	City, State, Zip: Lake City , FL ,
Family Type: Single-family		
New/Existing: New (From Plans)		
Comment:		

CLIMATE

✓	Design Location	TMY Site	IECC Zone	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_REGI	2	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	3799	35175

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	1st floor	2815	25335	Yes	6	2	1	Yes	Yes	Yes
2	2nd Floor	984	9840	No	4	2	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	1st floor	282 ft	0	2815 ft²	----	0.3	0.3	0.4
_____	2	Floor Over Other Space	2nd Floor	----	----	984 ft²	0	0.3	0.3	0.4

ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Hip	Composition shingles	3384 ft²	0 ft²	Dark	0.96	No	0.9	No	0	33.7

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	2815 ft²	N	N

CEILING

✓	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
✓	1	Under Attic (Vented)	1st floor	30	2815 ft²	0.11	Wood
✓	2	Under Attic (Vented)	2nd Floor	30	684 ft²	0.11	Wood

WALLS

✓	#	Ornt	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=>W	Exterior	Frame - Wood	1st floor	13	65	8	9		591 ft²		0.23	0.75	0
✓	2	E=>N	Exterior	Frame - Wood	1st floor	13	71	7	8		572.6666		0.23	0.75	0
✓	3	S=>E	Exterior	Frame - Wood	1st floor	13	72	8	8		581.3333		0.23	0.75	0
✓	4	W=>S	Exterior	Frame - Wood	1st floor	13	72	7	8		580.6666		0.23	0.75	0
✓	5	N=>W	Exterior	Frame - Wood	2nd Floor	13	36	4	9	4	339.1111		0.23	0.75	0
✓	6	E=>N	Exterior	Frame - Wood	2nd Floor	13	39	4	9	4	367.1111		0.23	0.75	0
✓	7	S=>E	Exterior	Frame - Wood	2nd Floor	13	36	4	9	4	339.1111		0.23	0.75	0
✓	8	W=>S	Exterior	Frame - Wood	2nd Floor	13	39	4	9	4	367.1111		0.23	0.75	0

DOORS

✓	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
✓	1	N=>W	Insulated	1st floor	None	0.400000	2		6	8	13.33333
✓	2	E=>N	Insulated	1st floor	None	0.400000	2		6	8	17.77777
✓	3	S=>E	Insulated	1st floor	None	0.400000	2		6	8	20 ft²

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

✓	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Separation	Int Shade	Screening
✓	1	N=>W	1	Metal	Low-E Double	Yes	0.35	0.35	40 ft²	1 ft 6 in	2 ft 0 in	None	None
✓	2	N=>W	1	Metal	Low-E Double	Yes	0.35	0.35	26.66666	1 ft 6 in	5 ft 0 in	None	None
✓	3	N=>W	1	Metal	Low-E Double	Yes	0.35	0.35	72 ft²	0 ft 0 in	0 ft 0 in	None	None
✓	4	N=>W	1	Metal	Low-E Double	Yes	0.35	0.35	15 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	5	E=>N	2	Metal	Low-E Double	Yes	0.35	0.35	4.5 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	6	E=>N	2	Metal	Low-E Double	Yes	0.35	0.35	10 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	7	E=>N	2	Metal	Low-E Double	Yes	0.35	0.35	25 ft²	0 ft 0 in	0 ft 0 in	None	None
✓	8	E=>N	2	Metal	Low-E Double	Yes	0.35	0.35	6 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	9	S=>E	3	Metal	Low-E Double	Yes	0.35	0.35	15 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	10	S=>E	3	Metal	Low-E Double	Yes	0.35	0.35	25 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	11	W=>S	4	Metal	Low-E Double	Yes	0.35	0.35	45 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	12	S=>E	3	Metal	Low-E Double	Yes	0.35	0.35	30 ft²	0 ft 0 in	0 ft 0 in	None	None
✓	13	S=>E	3	Metal	Low-E Double	Yes	0.35	0.35	20 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	14	W=>S	4	Metal	Low-E Double	Yes	0.35	0.35	16 ft²	0 ft 0 in	0 ft 0 in	None	None
✓	15	W=>S	4	Metal	Low-E Double	Yes	0.35	0.35	5 ft²	0 ft 0 in	0 ft 0 in	None	None
✓	16	W=>S	4	Metal	Low-E Double	Yes	0.35	0.35	15 ft²	0 ft 0 in	0 ft 0 in	None	None
✓	17	N=>W	5	Metal	Low-E Double	Yes	0.35	0.35	30 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	18	E=>N	6	Metal	Low-E Double	Yes	0.35	0.35	9 ft²	1 ft 6 in	1 ft 0 in	None	None
✓	19	E=>N	6	Metal	Low-E Double	Yes	0.35	0.35	16 ft²	1 ft 6 in	1 ft 0 in	None	None

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

✓	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Separation	Int Shade	Screening
✓	20	S=>E	7	Metal	Low-E Double	Yes	0.87	0.66	48 ft²	1 ft 6 in	1 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	0.000699	6975.3	382.93	720.17	0.6635	11.898

HEATING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
✓	1	Electric Heat Pump	None	HSPF: 7.7	82 kBtu/hr	1	sys#1

COOLING SYSTEM

✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
✓	1	Central Unit	None	SEER: 13	82 kBtu/hr	2460 cfm	0.75	1	sys#1

HOT WATER SYSTEM

✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
✓	1	Electric	None	1st floor	0.92	50 gal	70 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	Percent Leakage	QN	RLF	HVAC # Heat	# Cool
✓	1	Attic	6	759.8 ft	Attic	189.95	Default Leakage	1st floor	(Default)	(Default) %			1	1

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

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

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

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS: 284 Montique Ct.
Lake City, FL,

PERMIT #:

MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Air leakage	402.4	To be caulked, gasketed, weatherstripped or otherwise sealed. Recessed lighting IC-rated as meeting ASTM E 283. Windows and doors = 0.30 cfm/sq.ft. Testing or visual inspection required. Fireplaces: gasketed doors & outdoor combustion air. Must complete envelope leakage report or visually verify Table 402.4.2.	
Thermostat & controls	403.1	At least one thermostat shall be provided for each separate heating and cooling system. Where forced-air furnace is primary system, programmable thermostat is required. Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load.	
Ducts	403.2.2	All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers, shall be constructed and sealed in accordance with Section 503.2.7.2 of this code.	
	403.3.3	Building framing cavities shall not be used as supply ducts.	
Water heaters	403.4	Heat trap required for vertical pipe risers. Comply with efficiencies in Table 403.4.3.2. Provide switch or clearly marked circuit breaker (electric) or shutoff (gas). Circulating system pipes insulated to = R-2 + accessible manual OFF switch.	
Mechanical ventilation	403.5	Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level. No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas.	
Swimming Pools & Spas	403.9	Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds. Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy. Off/timer switch required. Gas heaters minimum thermal efficiency=78% (82% after 4/16/13). Heat pump pool heaters minimum COP= 4.0.	
Cooling/heating equipment	403.6	Sizing calculation performed & attached. Minimum efficiencies per Tables 503.2.3. Equipment efficiency verification required. Special occasion cooling or heating capacity requires separate system or variable capacity system. Electric heat >10kW must be divided into two or more stages.	
Ceilings/knee walls	405.2.1	R-19 space permitting.	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 78

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

284 Montique Ct., Lake City, FL,

1. New construction or existing	New (From Plans)	9. Wall Types	Insulation	Area
2. Single family or multiple family	Single-family	a. Frame - Wood, Exterior	R=13.0	3738.10 ft ²
3. Number of units, if multiple family	1	b. N/A	R=	ft ²
4. Number of Bedrooms	4	c. N/A	R=	ft ²
5. Is this a worst case?	Yes	d. N/A	R=	ft ²
6. Conditioned floor area (ft ²)	3799	10. Ceiling Types	Insulation	Area
7. Windows**	Description	a. Under Attic (Vented)	R=30.0	3499.00 ft ²
a. U-Factor:	DbI, U=0.35	b. N/A	R=	ft ²
SHGC:	SHGC=0.35	c. N/A	R=	ft ²
b. U-Factor:	DbI, U=0.87	11. Ducts		R ft ²
SHGC:	SHGC=0.66	a. Sup: Attic, Ret: Attic, AH: 1st floor	6	759.8
c. U-Factor:	N/A			
SHGC:				
d. U-Factor:	N/A	12. Cooling systems	kBtu/hr	Efficiency
SHGC:		a. Central Unit	82.0	SEER:13.00
Area Weighted Average Overhang Depth:	0.983 ft.	13. Heating systems	kBtu/hr	Efficiency
Area Weighted Average SHGC:	0.381	a. Electric Heat Pump	82.0	HSPF:7.70
8. Floor Types	Insulation	Area		
a. Slab-On-Grade Edge Insulation	R=0.0	2815.00 ft ²		Cap: 50 gallons
b. Floor Over Other Space	R=0.0	984.00 ft ²		EF: 0.92
c. N/A	R=	ft ²		
		14. Hot water systems		
		a. Electric		
		b. Conservation features		
		None		
		15. Credits		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: _____ City/FL Zip: _____



*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 EnergyGauge Rating. Contact the EnergyGauge Hotline at (321) 638-1492 or see the EnergyGauge web site at energygauge.com for information and a list of certified Raters. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section 303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Residential System Sizing Calculation

Summary

Watson Res
284 Montique Ct.
Lake City, FL

Project Title:
1305039

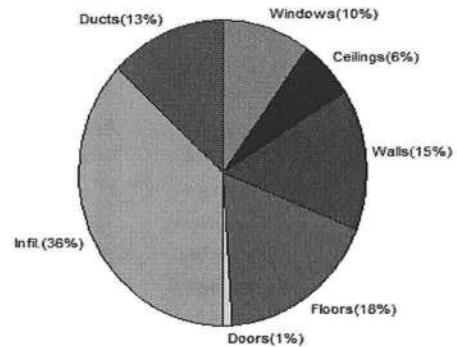
2013-05-21

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(54gr.)					
Winter design temperature(MJ8 99%)	33	F	Summer design temperature(MJ8 99%)	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
Total heating load calculation			69081	Btuh	
Submitted heating capacity	% of calc	Btuh	Total cooling load calculation		
Total (Electric Heat Pump)	118.7	82000	69215		
Heat Pump + Auxiliary(0.0kW)	118.7	82000			
Submitted cooling capacity	% of calc	Btuh			
Sensible (SHR = 0.75)	129.0	61500			
Latent	95.1	20500			
Total (Electric Heat Pump)	118.5	82000			

WINTER CALCULATIONS

Winter Heating Load (for 3799 sqft)

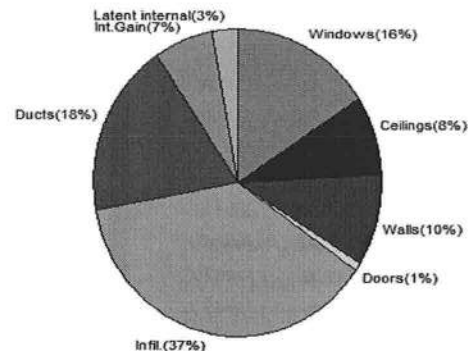
Load component			Load	
Window total	473	sqft	7051	Btuh
Wall total	3214	sqft	10554	Btuh
Door total	51	sqft	756	Btuh
Ceiling total	3499	sqft	4123	Btuh
Floor total	See detail report		12312	Btuh
Infiltration	622	cfm	25213	Btuh
Duct loss			9071	Btuh
Subtotal			69081	Btuh
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			69081	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 3799 sqft)

Load component			Load	
Window total	473	sqft	10973	Btuh
Wall total	3214	sqft	6703	Btuh
Door total	51	sqft	572	Btuh
Ceiling total	3499	sqft	5795	Btuh
Floor total			0	Btuh
Infiltration	467	cfm	8688	Btuh
Internal gain			4700	Btuh
Duct gain			10234	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Blower Load			0	Btuh
Total sensible gain			47665	Btuh
Latent gain(ducts)			2490	Btuh
Latent gain(infiltration)			17061	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			2000	Btuh
Total latent gain			21550	Btuh
TOTAL HEAT GAIN			69215	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY:

DATE: 2013-05-21

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Watson Res
284 Montique Ct.
Lake City, FL

Project Title:
1305039
Building Type: User

2013-05-21

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 F (MJ8 99%)

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.35	Metal	0.35	N	40.0		12.9	518 Btuh
2	2, NFRC 0.35	Metal	0.35	N	26.7		12.9	345 Btuh
3	2, NFRC 0.35	Metal	0.35	N	72.0		12.9	932 Btuh
4	2, NFRC 0.35	Metal	0.35	N	15.0		12.9	194 Btuh
5	2, NFRC 0.35	Metal	0.35	E	4.5		12.9	58 Btuh
6	2, NFRC 0.35	Metal	0.35	E	10.0		12.9	130 Btuh
7	2, NFRC 0.35	Metal	0.35	E	25.0		12.9	324 Btuh
8	2, NFRC 0.35	Metal	0.35	E	6.0		12.9	78 Btuh
9	2, NFRC 0.35	Metal	0.35	S	15.0		12.9	194 Btuh
10	2, NFRC 0.35	Metal	0.35	S	25.0		12.9	324 Btuh
11	2, NFRC 0.35	Metal	0.35	W	45.0		12.9	583 Btuh
12	2, NFRC 0.35	Metal	0.35	S	30.0		12.9	388 Btuh
13	2, NFRC 0.35	Metal	0.35	S	20.0		12.9	259 Btuh
14	2, NFRC 0.35	Metal	0.35	W	16.0		12.9	207 Btuh
15	2, NFRC 0.35	Metal	0.35	W	5.0		12.9	65 Btuh
16	2, NFRC 0.35	Metal	0.35	W	15.0		12.9	194 Btuh
17	2, NFRC 0.35	Metal	0.35	N	30.0		12.9	388 Btuh
18	2, NFRC 0.35	Metal	0.35	E	9.0		12.9	117 Btuh
19	2, NFRC 0.35	Metal	0.35	E	16.0		12.9	207 Btuh
20	2, NFRC 0.66	Metal	0.87	S	48.0		32.2	1545 Btuh
Window Total					473.2(sqft)			7051 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	424		3.28	1392 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	509		3.28	1673 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	471		3.28	1548 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	500		3.28	1641 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	309		3.28	1015 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	342		3.28	1124 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	291		3.28	956 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	367		3.28	1206 Btuh
Wall Total					3214(sqft)			10554 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.400)		13		14.8	197 Btuh
2	Insulated - Exterior, n		(0.400)		18		14.8	263 Btuh
3	Insulated - Exterior, n		(0.400)		20		14.8	296 Btuh
Door Total					51(sqft)			756Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Vented Attic/D/Shing		(0.032)	30.0/0.0	2815		1.2	3317 Btuh
2	Vented Attic/D/Shing		(0.032)	30.0/0.0	684		1.2	806 Btuh
Ceiling Total					3499(sqft)			4123Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Watson Res
284 Montique Ct.
Lake City, FL

Project Title:
1305039
Building Type: User

2013-05-21

Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade	(1.180)	0.0	282.0 ft(perim.)	43.7	12312 Btuh
2	Interior	(1.180)	0.0	984.0 sqft	0.0	0 Btuh
	Floor Total			3799 sqft		12312 Btuh
Envelope Subtotal:						34797 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural	1.06	35175	1.00	622.4	25213 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att)				(DLM of 0.151)	9071 Btuh
All Zones	Sensible Subtotal All Zones					69081 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	69081 Btuh 0 Btuh 69081 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	82000 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

Watson Res
284 Montique Ct.
Lake City, FL

Project Title:
1305039

2013-05-21

Reference City: Gainesville, FL

Temperature Difference: 17.0F(MJ8 99%)

Humidity difference: 54gr.

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	0.35	0.35	No	No	N	1.5ft	2.0ft	40.0	0.0	40.0	13	13	532	Btuh
2	2 NFRC	0.35	0.35	No	No	N	1.5ft	5.0ft	26.7	0.0	26.7	13	13	355	Btuh
3	2 NFRC	0.35	0.35	No	No	N	0.0ft	0.0ft	72.0	0.0	72.0	13	13	958	Btuh
4	2 NFRC	0.35	0.35	No	No	N	1.5ft	1.0ft	15.0	0.0	15.0	13	13	200	Btuh
5	2 NFRC	0.35	0.35	No	No	E	1.5ft	1.0ft	4.5	0.7	3.8	13	40	159	Btuh
6	2 NFRC	0.35	0.35	No	No	E	1.5ft	1.0ft	10.0	0.5	9.5	13	40	384	Btuh
7	2 NFRC	0.35	0.35	No	No	E	0.0ft	0.0ft	25.0	0.0	25.0	13	40	992	Btuh
8	2 NFRC	0.35	0.35	No	No	E	1.5ft	1.0ft	6.0	0.5	5.5	13	40	225	Btuh
9	2 NFRC	0.35	0.35	No	No	S	1.5ft	1.0ft	15.0	15.0	0.0	13	16	200	Btuh
10	2 NFRC	0.35	0.35	No	No	S	1.5ft	1.0ft	25.0	25.0	0.0	13	16	333	Btuh
11	2 NFRC	0.35	0.35	No	No	W	1.5ft	1.0ft	45.0	2.2	42.8	13	40	1728	Btuh
12	2 NFRC	0.35	0.35	No	No	S	0.0ft	0.0ft	30.0	0.0	30.0	13	16	481	Btuh
13	2 NFRC	0.35	0.35	No	No	S	1.5ft	1.0ft	20.0	20.0	0.0	13	16	266	Btuh
14	2 NFRC	0.35	0.35	No	No	W	0.0ft	0.0ft	16.0	0.0	16.0	13	40	635	Btuh
15	2 NFRC	0.35	0.35	No	No	W	0.0ft	0.0ft	5.0	0.0	5.0	13	40	198	Btuh
16	2 NFRC	0.35	0.35	No	No	W	0.0ft	0.0ft	15.0	0.0	15.0	13	40	595	Btuh
17	2 NFRC	0.35	0.35	No	No	N	1.5ft	1.0ft	30.0	0.0	30.0	13	13	399	Btuh
18	2 NFRC	0.35	0.35	No	No	E	1.5ft	1.0ft	9.0	0.7	8.3	13	40	338	Btuh
19	2 NFRC	0.35	0.35	No	No	E	1.5ft	1.0ft	16.0	0.7	15.3	13	40	616	Btuh
20	2 NFRC	0.66	0.87	No	No	S	1.5ft	1.0ft	48.0	48.0	0.0	29	34	1376	Btuh
Window Total									473 (sqft)					10973 Btuh	
Walls	Type						U-Value	R-Value	Area(sqft)		HTM		Load		
							Cav/Sheath								
	1	Frame - Wood - Ext					0.09	13.0/0.0	424.0		2.1		884 Btuh		
	2	Frame - Wood - Ext					0.09	13.0/0.0	509.4		2.1		1062 Btuh		
	3	Frame - Wood - Ext					0.09	13.0/0.0	471.3		2.1		983 Btuh		
	4	Frame - Wood - Ext					0.09	13.0/0.0	499.7		2.1		1042 Btuh		
	5	Frame - Wood - Ext					0.09	13.0/0.0	309.1		2.1		645 Btuh		
	6	Frame - Wood - Ext					0.09	13.0/0.0	342.1		2.1		714 Btuh		
	7	Frame - Wood - Ext					0.09	13.0/0.0	291.1		2.1		607 Btuh		
	8	Frame - Wood - Ext					0.09	13.0/0.0	367.1		2.1		766 Btuh		
Wall Total									3214 (sqft)					6703 Btuh	
Doors	Type								Area (sqft)		HTM		Load		
	1	Insulated - Exterior							13.3		11.2		149 Btuh		
	2	Insulated - Exterior							17.8		11.2		199 Btuh		
	3	Insulated - Exterior							20.0		11.2		224 Btuh		
	Door Total									51 (sqft)					572 Btuh
Ceilings	Type/Color/Surface						U-Value	R-Value	Area(sqft)		HTM		Load		
	1	Vented Attic/DarkShingle					0.032	30.0/0.0	2815.0		1.66		4662 Btuh		
	2	Vented Attic/DarkShingle					0.032	30.0/0.0	684.0		1.66		1133 Btuh		
	Ceiling Total									3499 (sqft)					5795 Btuh
Floors	Type								Size		HTM		Load		
	1	Slab On Grade					0.0		2815 (ft-perimeter)		0.0		0 Btuh		
	2	Interior					0.0		984 (sqft)		0.0		0 Btuh		
	Floor Total									3799.0 (sqft)					0 Btuh
	Envelope Subtotal:													24043 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Watson Res
284 Montique Ct.
Lake City, FL

Project Title:
1305039

Climate:FL_GAINESVILLE_REGIONAL_A

2013-05-21

Infiltration	Type Natural	Average ACH 0.80	Volume(cuft) 35175	Wall Ratio 1	CFM= 466.8	Load 8688 Btuh
Internal gain		Occupants 10	Btuh/occupant X 230	Appliance +	2400	Load 4700 Btuh
					Sensible Envelope Load:	37431 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)			(DGM of 0.273)		10234 Btuh
					Sensible Load All Zones	47665 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Watson Res
284 Montique Ct.
Lake City, FL

Project Title:
1305039

Climate:FL_GAINESVILLE_REGIONAL_A

2013-05-21

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	37431 Btuh
	Sensible Duct Load	10234 Btuh
	Total Sensible Zone Loads	47665 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	47665 Btuh
	Latent infiltration gain (for 54 gr. humidity difference)	17061 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	2490 Btuh
	Latent occupant gain (10.0 people @ 200 Btuh per person)	2000 Btuh
	Latent other gain	0 Btuh
	Latent total gain	21550 Btuh
	TOTAL GAIN	69215 Btuh

EQUIPMENT

1. Central Unit	#	82000 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