

*Altman*  
*HVAC Load Calculations*

for

House Craft Homes  
10523 US Highway 441  
Alachua FL 32615

Prepared By:

R. M. Walsh  
North Central Florida Air Conditioning  
P.O Box 642  
High Springs FL 32655  
386-454-4767  
Tuesday, August 24, 2021



## Project Report

### General Project Information

Project Title: Altman  
Project Date: Friday, May 07, 2021  
Project Comment: Edit the file AUTOLOAD.RHV so that it contains your company name, weather data, and any other information you would like to have in each new project that you start.

Client Name: House Craft Homes  
Client Address: 10523 US Highway 441  
Client City: Alachua FL 32615  
Client Phone: 386-462-5323  
Client Fax: 888-769-0105  
Client E-Mail Address: housecraftinvoices@gmail.com  
Company Name: North Central Florida Air Conditioning  
Company Representative: R. M. Walsh  
Company Address: P.O Box 642  
Company City: High Springs FL 32655  
Company Phone: 386-454-4767  
Company Fax: 386-454-4854  
Company Comment:

### Design Data

Reference City: Gainesville AP, Florida  
Building Orientation: Front door faces South  
Daily Temperature Range: Medium  
Latitude: 29 Degrees  
Elevation: 152 ft.  
Altitude Factor: 0.995

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Differenc e
Winter:	33	30.8	n/a	n/a	70	n/a
Summer:	92	77	51%	50%	75	52

### Check Figures

Total Building Supply CFM: 848 CFM Per Square ft.: 0.386  
Square ft. of Room Area: 2,198 Square ft. Per Ton: 628  
Volume (ft³): 20,711

### Building Loads

Total Heating Required Including Ventilation Air: 36,433 Btuh 36.433 MBH  
Total Sensible Gain: 23,626 Btuh 69 %  
Total Latent Gain: 10,502 Btuh 31 %  
Total Cooling Required Including Ventilation Air: 34,128 Btuh 2.84 Tons (Based On Sensible + Latent)  
3.50 Tons (Based On 75% Sensible Capacity)

### Notes

Rhvac is an ACCA approved Manual J, D and S computer program.  
Calculations are performed per ACCA Manual J 8th Edition, Version 2, and ACCA Manual D.  
All computed results are estimates as building use and weather may vary.  
Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.



## Duct Size Preview

Room or Duct Name	Source	Minimum Velocity	Maximum Velocity	Rough. Factor	Design L/100	SP Loss	Duct Velocity	Duct Length	Htg Flow	Clg Flow	Act. Flow	Duct Size	Reg Size
System 1													
<b>Supply Runouts</b>													
Zone 1													
1-Master Bath	Built-In	450	750	0.01	0.1		638		43	56	56	1--4	
2-WIC	Built-In	450	750	0.01	0.1		156.2		21	27	27	2--4	
3-Master	Built-In	450	750	0.01	0.1		491.3		74	171	171	1--8	
4-Utility	Built-In	450	750	0.01	0.1		287.4		17	25	25	1--4	
5-Great Room	Built-In	450	750	0.01	0.1		572.3		52	156	156	2--5	
6-Bath 2	Built-In	450	750	0.01	0.1		180.6		12	16	16	1--4	
7-Bedroom 2	Built-In	450	750	0.01	0.1		520.7		47	102	102	1--6	
8-Kitchen/Nook	Built-In	450	750	0.01	0.1		542.9		37	107	107	1--6	
9-Office	Built-In	450	750	0.01	0.1		441.1		33	38	38	1--4	
10-Dining	Built-In	450	750	0.01	0.1		337.4		14	29	29	1--4	
11-Entry	Built-In	450	750	0.01	0.1		293.7		17	26	26	1--4	
12-Bedroom 3	Built-In	450	750	0.01	0.1		460.7		28	90	90	1--6	
13-1/2 Bath	Built-In	450	750	0.01	0.1		40.6		2	4	4	1--4	
<b>Other Ducts in System 1</b>													
Supply Main Trunk	Built-In	650	900	0.003	0.1		763		394	848	848	10x16	

## Summary

System 1

Heating Flow: 394

Cooling Flow: 848



## *Equipment Data - System 1 - Main Floor*

### **Cooling**

System Type:	Air Source Heat Pump
Outdoor Model:	DZ14SN0421A*
Indoor Model:	ARUF47D14A*
Tradename:	DAIKIN
Outdoor Manufacturer:	DAIKIN MANUFACTURING COMPANY, L.P.
Description:	Air Source Heat Pump
AHRI Reference No.:	7998954
Capacity:	39,000
Efficiency:	14 SEER

### **Heating**

System Type:	Air Source Heat Pump
Model:	DZ14SN0421A*
Tradename:	DAIKIN
Manufacturer:	DAIKIN MANUFACTURING COMPANY, L.P.
Description:	Air Source Heat Pump
Capacity:	39,000
Efficiency:	8.2 HSPF