CTP Schoening
HVAC Load Calculations

for

House Craft Homes
10523 US Highway 441
Alachua Fl 32615

Prepared By:

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386-454-4767
Friday, October 07, 2022

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.

Project Report

General Project Information

Project Title:	CTP Schoening
Project Date:	Friday, March 1, 2022
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 Centeral Florida Air Conditioning
Company Representative:	R. M. Walsh
Company Address:	P.O Box 358604
Company City:	Gainesville, Fl 32635
Company Phone:	386-454-4767
Company Fax:	386-454-4854
Company Comment:	

Design Data

Reference City:		Gainsville 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 Difference
Winter:	33	30.8	n/a	n/a	70	n/a
Summer:	92	77	51%	50%	75	52

Check Figures

Total Building Supply CFM:	828	CFM Per Square ft.:	0.556
Square ft. of Room Area:	1,490	Square ft. Per Ton:	494
Volume (ft³):	14,145		

Building Loads

Total Heating Required Including Ventilation Air:	32,100 Btuh	32.100	MBH
Total Sensible Gain:	23,897 Btuh	73	%
Total Latent Gain:	9,055 Btuh	27	%
Total Cooling Required Including Ventilation Air:	32,951 Btuh	2.75	Tons (Based On Sensible + Latent)
		3.02	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													
Supply Runouts													
Zone 1													
1-Master Bath	Built-In	450	750	0.01	0.1		372		39	32	32	1--4	
2-WIC	Built-In	450	750	0.01	0.1		60.2		3	5	5	1--4	
3-Master	Built-In	450	750	0.01	0.1		537.8		52	144	144	1--7	
4-Living Room	Built-In	450	750	0.01	0.1		458.4		46	123	123	1--7	
5-Kitchen/Dining	Built-In	450	750	0.01	0.1		516.3		65	203	203	2--6	
6-Bedroom 2	Built-In	450	750	0.01	0.1		499.1		54	98	98	1--6	
7-Bath 1	Built-In	450	750	0.01	0.1		198.9		16	17	17	1--4	
8-Bedroom 3	Built-In	450	750	0.01	0.1		477.6		50	94	94	1--6	
9-Laundry	Built-In	450	750	0.01	0.1		278.8		19	24	24	1--4	
10-Bedroom 4	Built-In	450	750	0.01	0.1		647.8		31	88	88	1--5	
Other Ducts in System 1													
Supply Main Trunk	Built-In	650	900	0.003	0.1		745.6		376	828	828	10x16	

Summary

System 1

Heating Flow: 376

Cooling Flow: 828

Equipment Data - System 1 - Main Floor

Cooling

System Type:	Air Source Heat Pump
Outdoor Model:	DZ14SN0361A*
Indoor Model:	ARUF37D14A*
Tradename:	DAIKIN
Outdoor Manufacturer:	DAIKIN MANUFACTURING COMPANY, L.P.
Description:	Air Source Heat Pump
AHRI Reference No.:	7998865
Capacity:	34,400
Efficiency:	14 SEER

Heating

System Type:	Air Source Heat Pump
Model:	DZ14SN0361A*
Tradename:	DAIKIN
Manufacturer:	DAIKIN MANUFACTURING COMPANY, L.P.
Description:	Air Source Heat Pump
Capacity:	32,800
Efficiency:	8.2 HSPF

Manual S Performance Data - System 1 - Main Floor

Loads and Design Conditions

Cooling:

Outdoor Dry Bulb:	0	Sensible Gain:	23.897
Outdoor Wet Bulb:	77	Latent Gain:	9.055
Indoor Dry Bulb:	75	Total Gain:	32.951
Indoor RH:	50	Load SHR:	0.73
Supply Airflow:	0	Entering Dry Bulb:	0
		Entering Wet Bulb:	0

Heating:

Outdoor Dry Bulb:	33	Sensible Loss:	32.100
Indoor Dry Bulb:	70	Entering Dry Bulb:	62.3
Indoor RH:	30	Supply Airflow:	376

Equipment Performance Data at System Design Conditions

Cooling:
Model Type: Air Source Heat Pump, Outdoor Model: DZ14SN0361A*, Indoor Model: ARUF37D14A*
, AHRI Reference Number: 7998865Nominal Capacity: 34.400, Manufacturer: DAIKIN MANUFACTURING COMPANY, L.P.

Interpolation Results:

		Load	Percent of Load
Sensible Capacity:	0.000	23.897	0%
Latent Capacity:	0.000	9.055	0%
Total Capacity:	0.000	32.951	0%

Heating:
Model Type: Air Source Heat Pump, Model: DZ14SN0361A*, Nominal Capacity: 32.800, Manufacturer: DAIKIN MANUFACTURING COMPANY, L.P.

Results:

		Load	Percent of Load
Heating Capacity:	32.800	32.100	102%

Manual S Performance Data - System 2

Loads and Design Conditions

Outdoor Dry Bulb:	0	Sensible Gain:	0.000
Outdoor Wet Bulb:	77	Latent Gain:	0.000
Indoor Dry Bulb:	75	Total Gain:	0.000
Indoor RH:	50	Load SHR:	0.00
Supply Airflow:	0	Entering Dry Bulb:	0
		Entering Wet Bulb:	0

Equipment Performance Data at System Design Conditions

Model Type: Standard Air Conditioner,
Manufacturer:

Interpolation Results:

		Load	Percent of Load
Sensible Capacity:	0.000	0.000	0%
Latent Capacity:	0.000	0.000	0%
Total Capacity:	0.000	0.000	0%

Manual S Performance Data - System 3

Loads and Design Conditions

Outdoor Dry Bulb:	0	Sensible Gain:	0.000
Outdoor Wet Bulb:	77	Latent Gain:	0.000
Indoor Dry Bulb:	75	Total Gain:	0.000
Indoor RH:	50	Load SHR:	0.00
Supply Airflow:	0	Entering Dry Bulb:	0
		Entering Wet Bulb:	0

Equipment Performance Data at System Design Conditions

Model Type: Standard Air Conditioner,
Manufacturer:

Interpolation Results:

		Load	Percent of Load
Sensible Capacity:	0.000	0.000	0%
Latent Capacity:	0.000	0.000	0%
Total Capacity:	0.000	0.000	0%