

Residential System Sizing Calculation

Summary

Mark & Angie Smith
Little Road
Lake City, FL 32024

Project Title:
Mark & Angie Smith

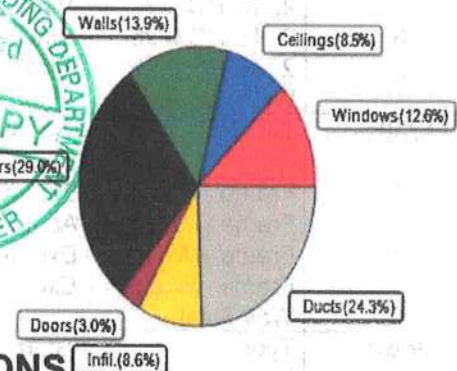
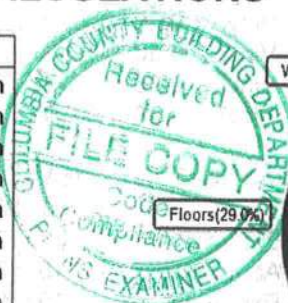
7/5/2021

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	37371 Btuh	Total cooling load calculation	29170 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.8 37668	Sensible (SHR = 0.70)	87.8 20445
Heat Pump + Auxiliary(0.0kW)	100.8 37668	Latent	148.8 8762
		Total (Electric Heat Pump)	100.1 29207

WINTER CALCULATIONS

Winter Heating Load (for 2986 sqft)

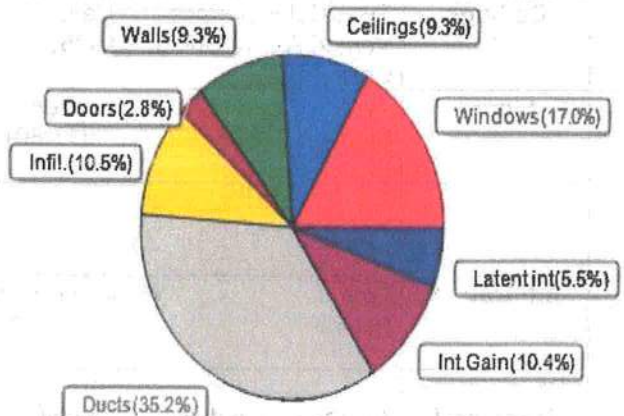
Load component		Load	
Window total	327 sqft	4714	Btuh
Wall total	1683 sqft	5201	Btuh
Door total	60 sqft	1104	Btuh
Ceiling total	3135 sqft	3183	Btuh
Floor total	2986 sqft	10856	Btuh
Infiltration	74 cfm	3223	Btuh
Duct loss		9090	Btuh
Subtotal		37371	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		37371	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2986 sqft)

Load component		Load	
Window total	327 sqft	4952	Btuh
Wall total	1683 sqft	2716	Btuh
Door total	60 sqft	828	Btuh
Ceiling total	3135 sqft	2705	Btuh
Floor total		0	Btuh
Infiltration	55 cfm	1148	Btuh
Internal gain		3040	Btuh
Duct gain		7893	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		23282	Btuh
Latent gain(ducts)		2383	Btuh
Latent gain(infiltration)		1905	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1600	Btuh
Total latent gain		5888	Btuh
TOTAL HEAT GAIN		29170	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

EnergyGauge® / USRCZB v7.0.00

Manual J Winter Calculations

Residential Load - Component Details (continued)

Mark & Angie Smith
Little Road
Lake City, FL 32024

Project Title:
Mark & Angie Smith
Building Type: User

7/5/2021

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	37371 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	37371 Btuh

EQUIPMENT

1. Electric Heat Pump	#	37668 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

Manual J Summer Calculations

Residential Load - Component Details (continued)

Mark & Angie Smith
Little Road
Lake City, FL 32024

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Mark & Angie Smith

7/5/2021

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	15389 Btuh
	Sensible Duct Load	7893 Btuh
	Total Sensible Zone Loads	23282 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	23282 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1905 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	2383 Btuh
	Latent occupant gain (8.0 people @ 200 Btuh per person)	1600 Btuh
	Latent other gain	0 Btuh
	Latent total gain	5888 Btuh
	TOTAL GAIN	29170 Btuh

EQUIPMENT

1. Central Unit	#	29207 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