

Residential System Sizing Calculation

Summary

Jesse & Elizabeth Hubbart
14784 SW Tustenuggee Ave
Ft White , FL 32038

Project Title:
Hubbart Res

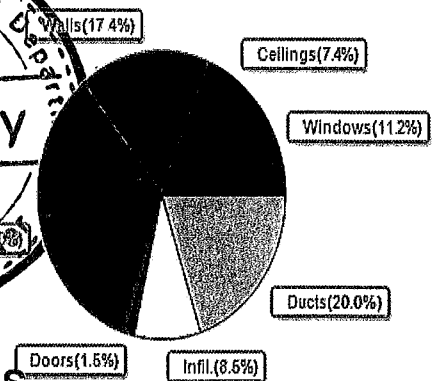
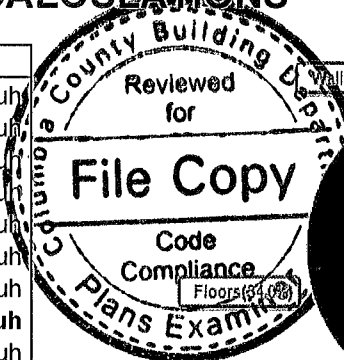
3/26/2025

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (79F) Humidity difference(54gr.)			
Winter design temperature(MJ8 99%/Cu)33 F		Summer design temperature(MJ8 99%/Cu)99 F	
Winter setpoint 70 F		Summer setpoint 75 F	
Winter temperature difference 37 F		Summer temperature difference 24 F	
Total heating load calculation	22525 Btuh	Total cooling load calculation	22243 Btuh
Submitted heating capacity % of calc Btuh		Submitted cooling capacity % of calc Btuh	
Total (Electric Heat Pump) 131.0 29500		Sensible (SHR = 0.75) 119.7 22125	
Heat Pump + Auxiliary(0.0kW) 131.0 29500		Latent 195.9 7375	
		Total (Electric Heat Pump) 132.6 29500	

WINTER CALCULATIONS

Winter Heating Load (for 1611 sqft)

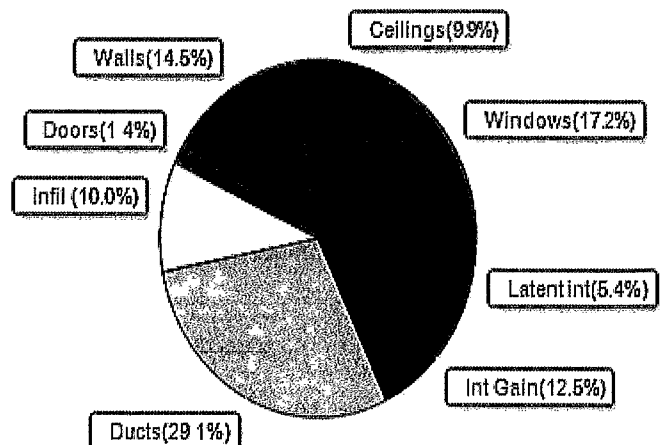
Load component		Load	
Window total	190 sqft	2531 Btuh	
Wall total	1193 sqft	3917 Btuh	
Door total	20 sqft	340 Btuh	
Ceiling total	1772 sqft	1664 Btuh	
Floor total	1611 sqft	7655 Btuh	
Infiltration	47 cfm	1909 Btuh	
Duct loss		4508 Btuh	
Subtotal		22525 Btuh	
Ventilation Ex:0 cfm; Sup:0 cfm		0 Btuh	
TOTAL HEAT LOSS		22525 Btuh	



SUMMER CALCULATIONS

Summer Cooling Load (for 1611 sqft)

Load component		Load	
Window total	190 sqft	3815 Btuh	
Wall total	1193 sqft	3229 Btuh	
Door total	20 sqft	322 Btuh	
Ceiling total	1772 sqft	2204 Btuh	
Floor total		0 Btuh	
Infiltration	35 cfm	929 Btuh	
Internal gain		2780 Btuh	
Duct gain		5199 Btuh	
Sens Ventilation Ex:0 cfm; Sup:0 cfm		0 Btuh	
Blower Load		0 Btuh	
Total sensible gain		18478 Btuh	
Latent gain(ducts)		1274 Btuh	
Latent gain(infiltration)		1292 Btuh	
Latent gain(ventilation)		0 Btuh	
Latent gain(internal/occupants/other)		1200 Btuh	
Total latent gain		3766 Btuh	
TOTAL HEAT GAIN		22243 Btuh	



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: 3/26/2025

Wm C. [Signature]

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Jesse & Elizabeth Hubbart
14784 SW Tustenuggee Ave
Ft White , FL 32038

Project Title:
Hubbart Res
Building Type: User

3/26/2025

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 °F (MJ8 99%/Cu)
Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Whole House								
Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.25	Vinyl	0.36	S	15.0		13.3	200 Btuh
2	2, NFRC 0.25	Vinyl	0.36	E	45.0		13.3	599 Btuh
3	2, NFRC 0.25	Vinyl	0.36	E	15.0		13.3	200 Btuh
4	2, NFRC 0.25	Vinyl	0.36	N	60.0		13.3	799 Btuh
5	2, NFRC 0.25	Vinyl	0.36	W	6.0		13.3	80 Btuh
6	2, NFRC 0.25	Vinyl	0.36	W	9.0		13.3	120 Btuh
7	2, NFRC 0.25	TIM	0.36	S	40.0		13.3	533 Btuh
	Window Total				190.0(sqft)			2531 Btuh
Walls	Type	Ornt	Ueff	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	321		3.28	1054 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	80		3.28	264 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	96		3.28	315 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	185		3.28	608 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	220		3.28	722 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	290		3.28	953 Btuh
	Wall Total				1193(sqft)			3917 Btuh
Doors	Type	Storm	Ueff		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		17.0	340 Btuh
	Door Total				20(sqft)			340Btuh
Ceilings	Type/Color/Surface		Ueff	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	1772		0.94	1664 Btuh
	Ceiling Total				1772(sqft)			1664Btuh
Floors	Type		Ueff	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	175.3 ft(perim)		43.7	7655 Btuh
	Floor Total				1611 sqft			7655 Btuh
	Envelope Subtotal							16107 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		
	Natural		0.22	12888	1.00	47.1		1909 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.250)							4508 Btuh
All Zones	Sensible Subtotal All Zones							22525 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Jesse & Elizabeth Hubbart
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Ft White , FL 32038

Project Title:
Hubbart Res
Building Type. User

3/26/2025

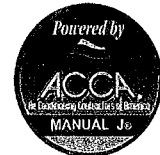
WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	22525 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	22525 Btuh

EQUIPMENT

1 Electric Heat Pump	#	29500 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

Jesse & Elizabeth Hubbart
14784 SW Tustenuggee Ave
Ft White , FL 32038

Project Title:
Hubbart Res

3/26/2025

Reference City: Gainesville, FL (Defaults)
Humidity difference: 54gr.

Temperature Difference: 24.0F(MJ8 99%/Cu)
Summer Setpoint: 75 °F (Required Manual J default)

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	0.25	0.36	No	No	S	1.5ft	0.5ft	15.0	15.0	0.0	14	16	208	Btuh	
2	2 NFRC	0.25	0.36	No	No	E	1.5ft	0.5ft	45.0	6.7	38.3	14	33	1347	Btuh	
3	2 NFRC	0.25	0.36	No	No	E	1.5ft	0.5ft	15.0	2.2	12.8	14	33	449	Btuh	
4	2 NFRC	0.25	0.36	No	No	N	1.5ft	0.5ft	60.0	0.0	60.0	14	14	834	Btuh	
5	2 NFRC	0.25	0.36	No	No	W	1.5ft	0.5ft	6.0	1.5	4.5	14	33	168	Btuh	
6	2 NFRC	0.25	0.36	No	No	W	1.5ft	0.5ft	9.0	2.2	6.8	14	33	253	Btuh	
7	2 NFRC	0.25	0.36	No	No	S	1.5ft	1.0ft	40.0	40.0	0.0	14	16	556	Btuh	
Window Total									190 (sqft)					3815 Btuh		
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load	
							Cav/Sheath									
1	Frame - Wood - Ext						0.09		13.0/0.0		321.0		2.7		869 Btuh	
2	Frame - Wood - Ext						0.09		13.0/0.0		80.3		2.7		217 Btuh	
3	Frame - Wood - Ext						0.09		13.0/0.0		96.0		2.7		260 Btuh	
4	Frame - Wood - Ext						0.09		13.0/0.0		185.0		2.7		501 Btuh	
5	Frame - Wood - Ext						0.09		13.0/0.0		220.0		2.7		596 Btuh	
6	Frame - Wood - Ext						0.09		13.0/0.0		290.3		2.7		786 Btuh	
Wall Total									1193 (sqft)					3229 Btuh		
Doors	Type								Area (sqft)		HTM		Load			
	1	Insulated - Exterior							20.0		16.1		322 Btuh			
Door Total									20 (sqft)					322 Btuh		
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load	
	1	Vented Attic/DarkShingle/RB					0.025		38.0/0.0		1772.1		1.24		2204 Btuh	
Ceiling Total									1772 (sqft)					2204 Btuh		
Floors	Type						R-Value		Size		HTM		Load			
	1	Slab On Grade					0.0		1611 (ft-perimeter)		0.0		0 Btuh			
Floor Total									1611.0 (sqft)					0 Btuh		
Envelope Subtotal.															9570 Btuh	
Infiltration	Type						Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load	
	Natural						0.16		12888		1		35.4		929 Btuh	
Internal gain						Occupants		Btuh/occupant		Appliance		Load				
						6		X 230		+		1400		2780 Btuh		
Sensible Envelope Load															13279 Btuh	
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)														5199 Btuh	
	(DGM of 0.392)															
Sensible Load All Zones															18478 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Jesse & Elizabeth Hubbart
14784 SW Tustenuggee Ave
Ft White , FL 32038

Project Title:
Hubbart Res

Climate:FL_GAINESVILLE_REGIONAL_A

3/26/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	13279 Btuh
	Sensible Duct Load	5199 Btuh
	Total Sensible Zone Loads	18478 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	18478 Btuh
	Latent infiltration gain (for 54 gr humidity difference)	1292 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1274 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3766 Btuh
	TOTAL GAIN	22243 Btuh

EQUIPMENT

1 Central Unit	#	29500 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(1/2))
(Ornt - compass orientation)



Version 8