

Residential System Sizing Calculation

Summary

Roberts, Peace

Project Title:
201261 Roberts Peace Res

Lake City, FL

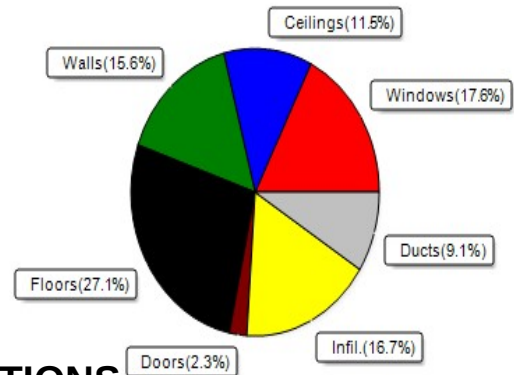
2020-11-19

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	45360 Btuh	Total cooling load calculation	36236 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	108.0 49000	Sensible (SHR = 0.75)	130.2 36750
Heat Pump + Auxiliary(0.0kW)	108.0 49000	Latent	153.1 12250
		Total (Electric Heat Pump)	135.2 49000

WINTER CALCULATIONS

Winter Heating Load (for 2615 sqft)

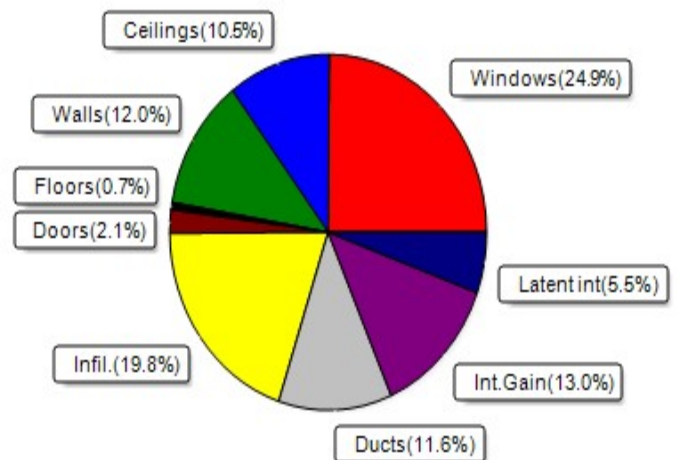
Load component		Load	
Window total	625 sqft	8001	Btuh
Wall total	2017 sqft	7098	Btuh
Door total	64 sqft	1031	Btuh
Ceiling total	3146 sqft	5235	Btuh
Floor total	See detail report	12297	Btuh
Infiltration	173 cfm	7588	Btuh
Duct loss		4109	Btuh
Subtotal		45360	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		45360	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2615 sqft)

Load component		Load	
Window total	625 sqft	9018	Btuh
Wall total	2017 sqft	4337	Btuh
Door total	64 sqft	773	Btuh
Ceiling total	3146 sqft	3789	Btuh
Floor total		240	Btuh
Infiltration	130 cfm	2703	Btuh
Internal gain		4700	Btuh
Duct gain		2675	Btuh
Sens. Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		28236	Btuh
Latent gain(ducts)		1515	Btuh
Latent gain(infiltration)		4485	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		2000	Btuh
Total latent gain		8000	Btuh
TOTAL HEAT GAIN		36236	Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: **Evan Beamsley**
DATE: **2020-11-19**

System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

Roberts, Peace

Project Title:

201261 Roberts Peace Res

Lake City, FL

Building Type: User

2020-11-19

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 F (TMY3 99%)

Component Loads for Room #1: Main

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.22	Metal	0.32	N	32.9		12.8	421 Btuh
2	2, NFRC 0.22	Metal	0.32	N	32.9		12.8	421 Btuh
3	2, NFRC 0.22	Metal	0.32	N	11.1		12.8	142 Btuh
4	2, NFRC 0.22	Metal	0.32	E	20.0		12.8	256 Btuh
5	2, NFRC 0.22	Metal	0.32	E	4.0		12.8	51 Btuh
6	2, NFRC 0.22	Metal	0.32	N	15.6		12.8	199 Btuh
7	2, NFRC 0.22	Metal	0.32	N	2.7		12.8	34 Btuh
8	2, NFRC 0.22	Metal	0.32	N	31.1		12.8	398 Btuh
9	2, NFRC 0.22	Metal	0.32	N	5.3		12.8	68 Btuh
10	2, NFRC 0.22	Metal	0.32	N	11.1		12.8	142 Btuh
11	2, NFRC 0.22	Metal	0.32	N	2.7		12.8	34 Btuh
12	2, NFRC 0.22	Metal	0.32	NW	15.6		12.8	199 Btuh
13	2, NFRC 0.22	Metal	0.32	NW	2.7		12.8	34 Btuh
14	2, NFRC 0.22	Metal	0.32	N	31.1		12.8	398 Btuh
15	2, NFRC 0.22	Metal	0.32	N	5.3		12.8	68 Btuh
16	2, NFRC 0.22	Metal	0.32	NE	15.6		12.8	199 Btuh
17	2, NFRC 0.22	Metal	0.32	NE	2.7		12.8	34 Btuh
18	2, NFRC 0.22	Metal	0.32	N	13.3		12.8	171 Btuh
19	2, NFRC 0.22	Metal	0.32	N	6.7		12.8	85 Btuh
20	2, NFRC 0.22	Metal	0.32	N	4.0		12.8	51 Btuh
21	2, NFRC 0.22	Metal	0.32	E	10.2		12.8	131 Btuh
22	2, NFRC 0.22	Metal	0.32	S	8.4		12.8	108 Btuh
23	2, NFRC 0.22	Metal	0.32	NE	19.4		12.8	249 Btuh
24	2, NFRC 0.22	Metal	0.32	NE	3.3		12.8	43 Btuh
25	2, NFRC 0.22	Metal	0.32	E	19.4		12.8	249 Btuh
26	2, NFRC 0.22	Metal	0.32	E	3.3		12.8	43 Btuh
27	2, NFRC 0.22	Metal	0.32	SE	25.3		12.8	324 Btuh
28	2, NFRC 0.22	Metal	0.32	SE	4.3		12.8	55 Btuh
29	2, NFRC 0.22	Metal	0.32	S	19.4		12.8	249 Btuh
30	2, NFRC 0.22	Metal	0.32	S	3.3		12.8	43 Btuh
31	2, NFRC 0.22	Metal	0.32	SW	25.3		12.8	324 Btuh
32	2, NFRC 0.22	Metal	0.32	SW	4.3		12.8	55 Btuh
33	2, NFRC 0.22	Metal	0.32	S	17.2		12.8	220 Btuh
34	2, NFRC 0.22	Metal	0.32	S	6.3		12.8	81 Btuh
35	2, NFRC 0.22	Metal	0.32	S	30.3		12.8	388 Btuh
36	2, NFRC 0.22	Metal	0.32	S	21.7		12.8	277 Btuh
37	2, NFRC 0.22	Metal	0.32	S	32.9		12.8	421 Btuh
38	2, NFRC 0.22	Metal	0.32	W	31.1		12.8	398 Btuh
39	2, NFRC 0.22	Metal	0.32	W	22.4		12.8	287 Btuh
40	2, NFRC 0.22	Metal	0.32	N	21.4		12.8	274 Btuh
Window Total					595.8(sqft)			7626 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Roberts, Peace

Project Title:

201261 Roberts Peace Res

Lake City, FL

Building Type: User

2020-11-19

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.089)	13.0/0.0	73	3.55	260 Btuh
2	Frame - Wood	- Ext	(0.089)	13.0/0.0	47	3.55	166 Btuh
3	Frame - Wood	- Ext	(0.089)	13.0/0.0	87	3.55	308 Btuh
4	Frame - Wood	- Ext	(0.089)	13.0/0.0	26	3.55	91 Btuh
5	Frame - Wood	- Ext	(0.089)	13.0/0.0	18	3.55	63 Btuh
6	Frame - Wood	- Ext	(0.089)	13.0/0.0	24	3.55	84 Btuh
7	Frame - Wood	- Ext	(0.089)	13.0/0.0	18	3.55	63 Btuh
8	Frame - Wood	- Ext	(0.089)	13.0/0.0	26	3.55	91 Btuh
9	Frame - Wood	- Ext	(0.089)	13.0/0.0	68	3.55	243 Btuh
10	Frame - Wood	- Ext	(0.089)	13.0/0.0	140	3.55	496 Btuh
11	Frame - Wood	- Ext	(0.089)	13.0/0.0	71	3.55	252 Btuh
12	Frame - Wood	- Ext	(0.089)	13.0/0.0	33	3.55	117 Btuh
13	Frame - Wood	- Ext	(0.089)	13.0/0.0	21	3.55	74 Btuh
14	Frame - Wood	- Ext	(0.089)	13.0/0.0	25	3.55	90 Btuh
15	Frame - Wood	- Ext	(0.089)	13.0/0.0	26	3.55	92 Btuh
16	Frame - Wood	- Ext	(0.089)	13.0/0.0	25	3.55	90 Btuh
17	Frame - Wood	- Ext	(0.089)	13.0/0.0	23	3.55	81 Btuh
18	Frame - Wood	- Ext	(0.089)	13.0/0.0	15	3.55	53 Btuh
19	Frame - Wood	- Ext	(0.089)	13.0/0.0	43	3.55	154 Btuh
20	Face Br - Wood	- Ext	(0.080)	13.0/0.0	114	3.19	364 Btuh
21	Face Br - Wood	- Ext	(0.080)	13.0/0.0	59	3.19	188 Btuh
22	Frame - Wood	- Ext	(0.089)	13.0/0.0	32	3.55	112 Btuh
23	Frame - Wood	- Ext	(0.089)	13.0/0.0	84	3.55	299 Btuh
24	Frame - Wood	- Ext	(0.089)	13.0/0.0	132	3.55	469 Btuh
25	Frame - Wood	- Ext	(0.089)	13.0/0.0	24	3.55	85 Btuh
26	Frame - Wood	- Ext	(0.089)	13.0/0.0	170	3.55	604 Btuh
27	Frame - Wood	- Ext	(0.089)	13.0/0.0	24	3.55	85 Btuh
28	Frame - Wood	- Ext	(0.089)	13.0/0.0	138	3.55	490 Btuh
29	Frame - Wood	- Ext	(0.089)	13.0/0.0	107	3.55	379 Btuh
	Wall Total				1691(sqft)		5940 Btuh
Doors	Type		Storm Ueff.		Area X	HTM=	Load
1	Insulated - Exterior, n		(0.400)		13	16.0	213 Btuh
2	Insulated - Exterior, n		(0.400)		7	16.0	107 Btuh
3	Insulated - Exterior, n		(0.400)		7	16.0	107 Btuh
4	Insulated - Exterior, n		(0.400)		20	16.0	320 Btuh
	Door Total				47(sqft)		747Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
1	Unvent Attic/D/Shing		(0.044)	0.0/22.0	2876	1.7	5024 Btuh
	Ceiling Total				2876(sqft)		5024Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	246.0 ft(perim.)	47.2	11611 Btuh
	Floor Total				2273 sqft		11611 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Roberts, Peace
Lake City, FL

Project Title:
201261 Roberts Peace Res
Building Type: User

2020-11-19

	Room Envelope Subtotal:	30947 Btuh
Infiltration	Type Wholehouse ACH Room Volume Wall Ratio CFM= Natural 0.39 23867 0.84 145.2	6360 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.100)	3716 Btuh
Room #1	Sensible Room Subtotal	41023 Btuh

Component Loads for Room #2: bonus Room

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
41	2, NFRC 0.22	Metal	0.32	E	14.7		12.8	188 Btuh
42	2, NFRC 0.22	Metal	0.32	W	14.7		12.8	188 Btuh
	Window Total				29.3(sqft)			375 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
30	Frame - Wood	- Ext	(0.089)	13.0/0.0	105		3.55	374 Btuh
31	Frame - Wood	- Ext	(0.089)	13.0/0.0	104		3.55	369 Btuh
32	Frame - Wood	- Ext	(0.089)	13.0/0.0	18		3.55	65 Btuh
33	Frame - Wood	- Adj	(0.089)	13.0/0.0	99		3.55	351 Btuh
	Wall Total				326(sqft)			1159 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
5	Insulated - Exterior, n		(0.400)		18		16.0	284 Btuh
	Door Total				18(sqft)			284Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
2	Knee Wall/D/Shing		(0.020)	30.0/22.0	270		0.8	211 Btuh
	Ceiling Total				270(sqft)			211Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
2	Raised Wood - Adj		(0.050)	19.0	342.0 sqft		2.0	686 Btuh
	Floor Total				342 sqft			686 Btuh
	Room Envelope Subtotal:							2716 Btuh
Infiltration	Type Wholehouse ACH Room Volume Wall Ratio CFM= Natural 0.39 2599 0.16 28.0							1228 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.100)							393 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Roberts, Peace
Lake City, FL

Project Title:
201261 Roberts Peace Res
Building Type: User

2020-11-19

Room #2	Sensible Room Subtotal	4336 Btuh
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WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	45360 Btuh 0 Btuh 45360 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	49000 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 - Room by Room Component Details

Roberts, Peace

Project Title:

201261 Roberts Peace Res

Lake City, FL

2020-11-19

Reference City: Gainesville, FL

Temperature Difference: 19.0F(TMY3 99%)

Humidity difference: 51gr.

Component Loads for Room #1: Main

Window	Type*						Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	2 NFRC	0.22, 0.32	No	No	N		1.5ft	4.0ft	32.9	0.0	32.9	11	11	352	Btuh
2	2 NFRC	0.22, 0.32	No	No	N		1.5ft	9.0ft	32.9	0.0	32.9	11	11	352	Btuh
3	2 NFRC	0.22, 0.32	No	No	N		1.5ft	7.0ft	11.1	0.0	11.1	11	11	119	Btuh
4	2 NFRC	0.22, 0.32	No	No	E		99.0f	2.0ft	20.0	20.0	0.0	11	27	214	Btuh
5	2 NFRC	0.22, 0.32	No	No	E		99.0f	1.0ft	4.0	4.0	0.0	11	27	43	Btuh
6	2 NFRC	0.22, 0.32	No	No	N		10.8f	1.0ft	15.6	0.0	15.6	11	11	167	Btuh
7	2 NFRC	0.22, 0.32	No	No	N		10.8f	0.0ft	2.7	0.0	2.7	11	11	29	Btuh
8	2 NFRC	0.22, 0.32	No	No	N		10.8f	1.0ft	31.1	0.0	31.1	11	11	333	Btuh
9	2 NFRC	0.22, 0.32	No	No	N		10.8f	0.0ft	5.3	0.0	5.3	11	11	57	Btuh
10	2 NFRC	0.22, 0.32	No	No	N		10.8f	1.0ft	11.1	0.0	11.1	11	11	119	Btuh
11	2 NFRC	0.22, 0.32	No	No	N		10.8f	0.0ft	2.7	0.0	2.7	11	11	29	Btuh
12	2 NFRC	0.22, 0.32	No	No	NW		9.5ft	1.0ft	15.6	0.0	15.6	11	21	325	Btuh
13	2 NFRC	0.22, 0.32	No	No	NW		9.5ft	0.0ft	2.7	0.0	2.7	11	21	56	Btuh
14	2 NFRC	0.22, 0.32	No	No	N		5.2ft	1.0ft	31.1	0.0	31.1	11	11	333	Btuh
15	2 NFRC	0.22, 0.32	No	No	N		5.2ft	0.0ft	5.3	0.0	5.3	11	11	57	Btuh
16	2 NFRC	0.22, 0.32	No	No	NE		99.0f	1.0ft	15.6	0.0	15.6	11	21	325	Btuh
17	2 NFRC	0.22, 0.32	No	No	NE		99.0f	0.0ft	2.7	0.0	2.7	11	21	56	Btuh
18	2 NFRC	0.22, 0.32	No	No	N		99.0f	1.0ft	13.3	0.0	13.3	11	11	143	Btuh
19	2 NFRC	0.22, 0.32	No	No	N		99.0f	1.0ft	6.7	0.0	6.7	11	11	71	Btuh
20	2 NFRC	0.22, 0.32	No	No	N		99.0f	0.0ft	4.0	0.0	4.0	11	11	43	Btuh
21	2 NFRC	0.22, 0.32	No	No	E		1.5ft	10.0f	10.2	0.0	10.2	11	27	279	Btuh
22	2 NFRC	0.22, 0.32	No	No	S		22.2f	1.0ft	8.4	8.4	0.0	11	12	90	Btuh
23	2 NFRC	0.22, 0.32	No	No	NE		99.0f	1.0ft	19.4	0.0	19.4	11	21	406	Btuh
24	2 NFRC	0.22, 0.32	No	No	NE		99.0f	0.0ft	3.3	0.0	3.3	11	21	70	Btuh
25	2 NFRC	0.22, 0.32	No	No	E		6.5ft	1.0ft	19.4	14.6	4.8	11	27	288	Btuh
26	2 NFRC	0.22, 0.32	No	No	E		6.5ft	0.0ft	3.3	3.3	0.0	11	27	36	Btuh
27	2 NFRC	0.22, 0.32	No	No	SE		11.5f	1.0ft	25.3	25.3	0.0	11	22	271	Btuh
28	2 NFRC	0.22, 0.32	No	No	SE		11.5f	0.0ft	4.3	4.3	0.0	11	22	46	Btuh
29	2 NFRC	0.22, 0.32	No	No	S		6.5ft	1.0ft	19.4	19.4	0.0	11	12	208	Btuh
30	2 NFRC	0.22, 0.32	No	No	S		6.5ft	0.0ft	3.3	3.3	0.0	11	12	36	Btuh
31	2 NFRC	0.22, 0.32	No	No	SW		11.5f	1.0ft	25.3	25.3	0.0	11	22	271	Btuh
32	2 NFRC	0.22, 0.32	No	No	SW		11.5f	0.0ft	4.3	4.3	0.0	11	22	46	Btuh
33	2 NFRC	0.22, 0.32	No	No	S		9.5ft	1.0ft	17.2	17.2	0.0	11	12	184	Btuh
34	2 NFRC	0.22, 0.32	No	No	S		9.5ft	0.0ft	6.3	6.3	0.0	11	12	68	Btuh
35	2 NFRC	0.22, 0.32	No	No	S		1.5ft	8.0ft	30.3	2.4	27.9	11	12	373	Btuh
36	2 NFRC	0.22, 0.32	No	No	S		1.5ft	7.0ft	21.7	5.1	16.6	11	12	261	Btuh
37	2 NFRC	0.22, 0.32	No	No	S		1.5ft	5.0ft	32.9	18.8	14.1	11	12	376	Btuh
38	2 NFRC	0.22, 0.32	No	No	W		1.5ft	7.0ft	31.1	0.0	31.1	11	27	849	Btuh
39	2 NFRC	0.22, 0.32	No	No	W		1.5ft	4.0ft	22.4	0.0	22.4	11	27	611	Btuh
40	2 NFRC	0.22, 0.32	No	No	N		1.5ft	3.0ft	21.4	0.0	21.4	11	11	229	Btuh
Window Total									596 (sqft)					8218 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Roberts, Peace

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
201261 Roberts Peace Res

Lake City, FL

2020-11-19

Walls	Type	U-Value	R-Value	Area(sqft)	HTM	Load
			Cav/Sheath			
1	Frame - Wood - Ext	0.09	13.0/0.0	73.1	2.3	165 Btuh
2	Frame - Wood - Ext	0.09	13.0/0.0	46.7	2.3	106 Btuh
3	Frame - Wood - Ext	0.09	13.0/0.0	86.9	2.3	197 Btuh
4	Frame - Wood - Ext	0.09	13.0/0.0	25.5	2.3	58 Btuh
5	Frame - Wood - Ext	0.09	13.0/0.0	17.8	2.3	40 Btuh
6	Frame - Wood - Ext	0.09	13.0/0.0	23.6	2.3	53 Btuh
7	Frame - Wood - Ext	0.09	13.0/0.0	17.8	2.3	40 Btuh
8	Frame - Wood - Ext	0.09	13.0/0.0	25.5	2.3	58 Btuh
9	Frame - Wood - Ext	0.09	13.0/0.0	68.3	2.3	155 Btuh
10	Frame - Wood - Ext	0.09	13.0/0.0	139.8	2.3	316 Btuh
11	Frame - Wood - Ext	0.09	13.0/0.0	71.1	2.3	161 Btuh
12	Frame - Wood - Ext	0.09	13.0/0.0	33.0	2.3	75 Btuh
13	Frame - Wood - Ext	0.09	13.0/0.0	20.7	2.3	47 Btuh
14	Frame - Wood - Ext	0.09	13.0/0.0	25.2	2.3	57 Btuh
15	Frame - Wood - Ext	0.09	13.0/0.0	25.9	2.3	59 Btuh
16	Frame - Wood - Ext	0.09	13.0/0.0	25.2	2.3	57 Btuh
17	Frame - Wood - Ext	0.09	13.0/0.0	22.9	2.3	52 Btuh
18	Frame - Wood - Ext	0.09	13.0/0.0	15.0	2.3	34 Btuh
19	Frame - Wood - Ext	0.09	13.0/0.0	43.4	2.3	98 Btuh
20	Face Brick - Wood - Ext	0.08	13.0/0.0	114.0	1.3	145 Btuh
21	Face Brick - Wood - Ext	0.08	13.0/0.0	59.0	1.3	75 Btuh
22	Frame - Wood - Ext	0.09	13.0/0.0	31.5	2.3	71 Btuh
23	Frame - Wood - Ext	0.09	13.0/0.0	84.1	2.3	190 Btuh
24	Frame - Wood - Ext	0.09	13.0/0.0	132.0	2.3	299 Btuh
25	Frame - Wood - Ext	0.09	13.0/0.0	24.0	2.3	54 Btuh
26	Frame - Wood - Ext	0.09	13.0/0.0	170.0	2.3	385 Btuh
27	Frame - Wood - Ext	0.09	13.0/0.0	24.0	2.3	54 Btuh
28	Frame - Wood - Ext	0.09	13.0/0.0	138.0	2.3	312 Btuh
29	Frame - Wood - Ext	0.09	13.0/0.0	106.6	2.3	241 Btuh
	Wall Total			1691 (sqft)		3655 Btuh
Doors	Type			Area (sqft)	HTM	Load
1	Insulated - Exterior			13.3	12.0	160 Btuh
2	Insulated - Exterior			6.7	12.0	80 Btuh
3	Insulated - Exterior			6.7	12.0	80 Btuh
4	Insulated - Exterior			20.0	12.0	240 Btuh
	Door Total			47 (sqft)		560 Btuh
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Unvented Attic/DarkShingle	0.044	0.0/22.0	2876.0	1.31	3768 Btuh
	Ceiling Total			2876 (sqft)		3768 Btuh
Floors	Type		R-Value	Size	HTM	Load
1	Slab On Grade		0.0	2273 (ft-perimeter)	0.0	0 Btuh
	Floor Total			2273.0 (sqft)		0 Btuh
	Zone Envelope Subtotal:					16201 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Roberts, Peace

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Infiltration	Type Natural	Wholehouse ACH 0.29	Volume(cuft) 23867	Wall Ratio 0.84	CFM= 108.9	Load 2266 Btuh
Internal gain		Occupants 8	Btuh/occupant X 230	Appliance +	2400	Load 4240 Btuh
	Sensible Envelope Load:					22707 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.105)					2376 Btuh
	Sensible Zone Load					25083 Btuh

Component Loads for Room #2: bonus Room

Window	Type*						Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
41	2 NFRC	0.22, 0.32	No	No	E		1.5ft	5.0ft	14.7	0.0	14.7	11	27	400	Btuh
42	2 NFRC	0.22, 0.32	No	No	W		1.5ft	5.0ft	14.7	0.0	14.7	11	27	400	Btuh
	Window Total								29 (sqft)					801	Btuh
Walls	Type						U-Value	R-Value	Area(sqft)			HTM		Load	
								Cav/Sheath							
	30	Frame - Wood - Ext					0.09	13.0/0.0	105.3			2.3		238	Btuh
	31	Frame - Wood - Ext					0.09	13.0/0.0	103.8			2.3		235	Btuh
	32	Frame - Wood - Ext					0.09	13.0/0.0	18.2			2.3		41	Btuh
	33	Frame - Wood - Adj					0.09	13.0/0.0	99.0			1.7		167	Btuh
	Wall Total								326 (sqft)					682	Btuh
Doors	Type								Area (sqft)			HTM		Load	
	5	Insulated - Exterior							17.8			12.0		213	Btuh
	Door Total								18 (sqft)					213	Btuh
Ceilings	Type/Color/Surface						U-Value	R-Value	Area(sqft)			HTM		Load	
	2	Knee Wall/DarkShingle					0.020	30.0/22.0	270.0			0.08		21	Btuh
	Ceiling Total								270 (sqft)					21	Btuh
Floors	Type							R-Value	Size			HTM		Load	
	2	Raised Wood - Adj						19.0	342 (sqft)			0.7		240	Btuh
	Floor Total								342.0 (sqft)					240	Btuh
	Zone Envelope Subtotal:													1957 Btuh	
Infiltration	Type	Wholehouse ACH					Volume(cuft)			Wall Ratio		CFM=		Load	
	Natural	0.29					2599			0.16		21.0		437	Btuh
Internal gain		Occupants					Btuh/occupant			Appliance		Load			
		2					X 230			+		0		460	Btuh
	Sensible Envelope Load:													2854 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

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Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.105)	299 Btuh
	Sensible Zone Load	3153 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Roberts, Peace
Lake City, FL

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WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	25561 Btuh
	Sensible Duct Load	2675 Btuh
	Total Sensible Zone Loads	28236 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	28236 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	4485 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1515 Btuh
	Latent occupant gain (10.0 people @ 200 Btuh per person)	2000 Btuh
	Latent other gain	0 Btuh
	Latent total gain	8000 Btuh
	TOTAL GAIN	36236 Btuh

EQUIPMENT

1. Central Unit	#	49000 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