

Residential System Sizing Calculation

Summary

Kim & Jeff Delaney
CR 240
Lake City, FL 32024

Project Title:
250179 Delaney

KwikModel Base

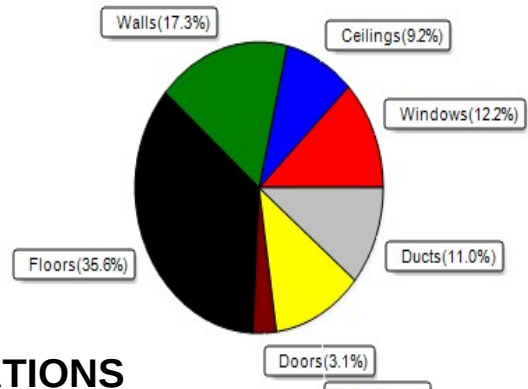
2/13/2025

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(164 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	31273 Btuh	Total cooling load calculation	20743 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	105.5 33000	Sensible (SHR = 0.50)	99.9 16500
Heat Pump + Auxiliary(0.0kW)	105.5 33000	Latent	389.7 16500
		Total (Electric Heat Pump)	159.1 33000

WINTER CALCULATIONS

Winter Heating Load (for 2202 sqft)

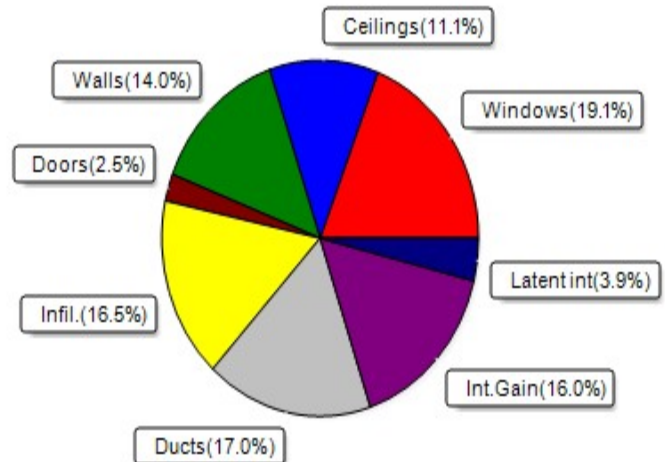
Load component	Load
Window total 319 sqft	3828 Btuh
Wall total 1753 sqft	5418 Btuh
Door total 52 sqft	957 Btuh
Ceiling total 2389 sqft	2879 Btuh
Floor total See detail report	11139 Btuh
Infiltration 83 cfm	3614 Btuh
Duct loss	3438 Btuh
Subtotal	31273 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	31273 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 2202 sqft)

Load component	Load
Window total 319 sqft	3956 Btuh
Wall total 1753 sqft	2899 Btuh
Door total 52 sqft	515 Btuh
Ceiling total 2389 sqft	2303 Btuh
Floor total	0 Btuh
Infiltration 62 cfm	1287 Btuh
Internal gain	3320 Btuh
Duct gain	2229 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	16509 Btuh
Latent gain(ducts)	1297 Btuh
Latent gain(infiltration)	2136 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	800 Btuh
Total latent gain	4234 Btuh
TOTAL HEAT GAIN	20743 Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: Evan Beamsley
DATE: 2025-02-13

System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

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Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 40.0 °F (TMY3 99%)
Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Room #1: Bath 2

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.22	Vinyl	0.30	E	6.0		12.0	72 Btuh
	Window Total				6.0(sqft)			72 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	75		3.09	232 Btuh
	Wall Total				75(sqft)			232 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Shing		(0.241)	0.0/19.0	81		1.2	98 Btuh
	Ceiling Total				81(sqft)			98Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	9.0 ft(perim.)		47.2	425 Btuh
	Floor Total				81 sqft			425 Btuh
	Room Envelope Subtotal:							826 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio	CFM=		Load
	Natural		0.24	729	0.04	3.5		155 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)							121 Btuh
Room #1	Sensible Room Subtotal							1102 Btuh

Component Loads for Room #2: Bed 2

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
2	2, NFRC 0.22	Vinyl	0.30	N	30.0		12.0	360 Btuh
	Window Total				30.0(sqft)			360 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	87		3.09	269 Btuh
3	Frame - Wood	- Ext	(0.077)	19.0/0.0	108		3.09	334 Btuh
4	Frame - Wood	- Ext	(0.077)	19.0/0.0	108		3.09	334 Btuh
5	Frame - Wood	- Ext	(0.077)	19.0/0.0	45		3.09	139 Btuh
	Wall Total				348(sqft)			1076 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

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Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
2	Flat ceil/D/Shing	(0.241)	0.0/19.0	156	1.2	188 Btuh
3	Flat ceil/D/Shing	(0.241)	0.0/19.0	33	1.2	39 Btuh
	Ceiling Total			189(sqft)		227Btuh
Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
2	Slab On Grade	(1.180)	0.0	37.0 ft(perim.)	47.2	1746 Btuh
3	Slab On Grade	(1.180)	0.0	5.0 ft(perim.)	47.2	236 Btuh
	Floor Total			189 sqft		1982 Btuh
	Room Envelope Subtotal:					3645 Btuh
Infiltration	Type	Wholehouse ACH	Room Volume	Wall Ratio	CFM=	Load
	Natural	0.24	1697	0.20	16.4	717 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)					539 Btuh
Room #2	Sensible Room Subtotal					4901 Btuh

Component Loads for Room #3: Bed 3

Window	Panes/Type	Frame U	Orientation	Area(sqft) X	HTM=	Load
3	2, NFRC 0.22	Vinyl 0.30	S	30.0	12.0	360 Btuh
	Window Total			30.0(sqft)		360 Btuh
Walls	Type	Ornt. Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
6	Frame - Wood - Ext	(0.077)	19.0/0.0	83	3.09	255 Btuh
7	Frame - Wood - Ext	(0.077)	19.0/0.0	41	3.09	125 Btuh
8	Frame - Wood - Ext	(0.077)	19.0/0.0	104	3.09	320 Btuh
	Wall Total			227(sqft)		700 Btuh
Ceilings	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
4	Flat ceil/D/Shing	(0.241)	0.0/19.0	144	1.2	173 Btuh
5	Flat ceil/D/Shing	(0.241)	0.0/19.0	29	1.2	35 Btuh
	Ceiling Total			173(sqft)		208Btuh
Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
4	Slab On Grade	(1.180)	0.0	4.5 ft(perim.)	47.2	212 Btuh
5	Slab On Grade	(1.180)	0.0	24.0 ft(perim.)	47.2	1133 Btuh
	Floor Total			173 sqft		1345 Btuh
	Room Envelope Subtotal:					2614 Btuh

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Residential Load - Component Details (continued)

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Infiltration	Type Natural	Wholehouse ACH 0.24	Room Volume 1557	Wall Ratio 0.13	CFM= 10.7	467 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)					380 Btuh
Room #3	Sensible Room Subtotal					3461 Btuh

Component Loads for Room #4: Dinning

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
4	2, NFRC 0.22	Vinyl	0.30	S	30.0		12.0	360 Btuh
	Window Total				30.0(sqft)			360 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
9	Frame - Wood	- Ext	(0.077)	19.0/0.0	78		3.09	241 Btuh
	Wall Total				78(sqft)			241 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
6	Flat ceil/D/Shing		(0.241)	0.0/19.0	30		1.2	36 Btuh
7	Flat ceil/D/Shing		(0.241)	0.0/19.0	26		1.2	31 Btuh
8	Flat ceil/D/Shing		(0.241)	0.0/19.0	82		1.2	99 Btuh
26	Knee wall/D/Shing		(0.241)	0.0/19.0	3		1.2	4 Btuh
27	Knee wall/D/Shing		(0.241)	0.0/19.0	4		1.2	5 Btuh
28	Knee wall/D/Shing		(0.241)	0.0/19.0	3		1.2	4 Btuh
29	Knee wall/D/Shing		(0.241)	0.0/19.0	4		1.2	5 Btuh
30	Knee wall/D/Shing		(0.241)	0.0/19.0	3		1.2	3 Btuh
31	Knee wall/D/Shing		(0.241)	0.0/19.0	4		1.2	4 Btuh
32	Knee wall/D/Shing		(0.241)	0.0/19.0	3		1.2	3 Btuh
33	Knee wall/D/Shing		(0.241)	0.0/19.0	4		1.2	4 Btuh
	Ceiling Total				164(sqft)			198Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
6	Slab On Grade		(1.180)	0.0	12.0 ft(perim.)		47.2	566 Btuh
	Floor Total				138 sqft			566 Btuh
	Room Envelope Subtotal:							1365 Btuh
Infiltration	Type Natural	Wholehouse ACH 0.24	Room Volume 1285	Wall Ratio 0.04	CFM= 3.7			161 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)							188 Btuh

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Residential Load - Component Details (continued)

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Room #4	Sensible Room Subtotal	1714 Btuh
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Component Loads for Room #5: Foyer

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
5	2, NFRC 0.22	Vinyl	0.30	S	24.0		12.0	288 Btuh
	Window Total				24.0(sqft)			288 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
10	Frame - Wood	- Ext	(0.077)	19.0/0.0	29		3.09	88 Btuh
	Wall Total				29(sqft)			88 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, m		(0.460)		24		18.4	442 Btuh
	Door Total				24(sqft)			442Btuh
Ceilings	Type/Color/Surface	Ueff.	R-Value		Area	X	HTM=	Load
9	Flat ceil/D/Shing	(0.241)	0.0/19.0		98		1.2	118 Btuh
	Ceiling Total				98(sqft)			118Btuh
Floors	Type	Ueff.	R-Value	Size	X	HTM=		Load
7	Slab On Grade	(1.180)	0.0	8.5 ft(perim.)		47.2		401 Btuh
	Floor Total			98 sqft				401 Btuh
	Room Envelope Subtotal:							1337 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio	CFM=		Load
	Natural		0.24	880	0.02	1.3		59 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)							172 Btuh
Room #5	Sensible Room Subtotal							1568 Btuh

Component Loads for Room #6: Hall at beds

Ceilings	Type/Color/Surface	Ueff.	R-Value	Area	X	HTM=	Load
10	Flat ceil/D/Shing	(0.241)	0.0/19.0	65		1.2	78 Btuh
11	Flat ceil/D/Shing	(0.241)	0.0/19.0	13		1.2	15 Btuh
12	Flat ceil/D/Shing	(0.241)	0.0/19.0	11		1.2	14 Btuh
	Ceiling Total			89(sqft)			107Btuh

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Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
8	Slab On Grade	(1.180)	0.0	0.0 ft(perim.)	47.2	0 Btuh
9	Slab On Grade	(1.180)	0.0	0.0 ft(perim.)	47.2	0 Btuh
10	Slab On Grade	(1.180)	0.0	0.0 ft(perim.)	47.2	0 Btuh
	Floor Total			89 sqft		0 Btuh
	Room Envelope Subtotal:					107 Btuh
Infiltration	Type	Wholehouse ACH	Room Volume	Wall Ratio	CFM=	Load
	Natural	0.24	797	0.00	0.0	0 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)					13 Btuh
Room #6	Sensible Room Subtotal					120 Btuh

Component Loads for Room #7: Kit Great

Window	Panes/Type	Frame U	Orientation	Area(sqft)	X	HTM=	Load
6	2, NFRC 0.22	Vinyl 0.30	N	16.0		12.0	192 Btuh
7	2, NFRC 0.22	Vinyl 0.30	N	18.0		12.0	216 Btuh
8	2, NFRC 0.22	Vinyl 0.30	N	18.0		12.0	216 Btuh
9	2, NFRC 0.22	Vinyl 0.30	N	16.0		12.0	192 Btuh
	Window Total				68.0(sqft)		816 Btuh
Walls	Type	Ornt.	Ueff.	R-Value	Area X	HTM=	Load
				(Cav/Sh)			
11	Frame - Wood	- Ext	(0.077)	19.0/0.0	176	3.09	544 Btuh
	Wall Total				176(sqft)		544 Btuh
Doors	Type	Storm	Ueff.		Area X	HTM=	Load
2	Insulated - Exterior,	m	(0.460)		8	18.4	147 Btuh
	Door Total				8(sqft)		147Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
13	Flat ceil/D/Shing		(0.241)	0.0/19.0	299	1.2	360 Btuh
14	Flat ceil/D/Shing		(0.241)	0.0/19.0	286	1.2	344 Btuh
15	Flat ceil/D/Shing		(0.241)	0.0/19.0	16	1.2	19 Btuh
34	Knee wall/D/Shing		(0.241)	0.0/19.0	19	1.2	23 Btuh
35	Knee wall/D/Shing		(0.241)	0.0/19.0	18	1.2	22 Btuh
36	Knee wall/D/Shing		(0.241)	0.0/19.0	19	1.2	23 Btuh
37	Knee wall/D/Shing		(0.241)	0.0/19.0	18	1.2	22 Btuh
	Ceiling Total				675(sqft)		813Btuh

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Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
11	Slab On Grade	(1.180)	0.0	0.0 ft(perim.)	47.2	0 Btuh
12	Slab On Grade	(1.180)	0.0	28.0 ft(perim.)	47.2	1322 Btuh
	Floor Total			553 sqft		1322 Btuh
	Room Envelope Subtotal:					3642 Btuh
Infiltration	Type	Wholehouse ACH	Room Volume	Wall Ratio	CFM=	
	Natural	0.24	6045	0.10	8.3	363 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)					495 Btuh
Room #7	Sensible Room Subtotal					4499 Btuh

Component Loads for Room #8: Laundry

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
10	2, NFRC 0.22	Vinyl	0.30	S	15.0		12.0	180 Btuh
	Window Total					15.0(sqft)		180 Btuh
Walls	Type	Ornt.	Ueff.	R-Value	Area	X	HTM=	Load
				(Cav/Sh)				
12	Frame - Wood	- Ext	(0.077)	19.0/0.0	75		3.09	232 Btuh
13	Frame - Wood	- Ext	(0.077)	19.0/0.0	86		3.09	264 Btuh
	Wall Total					161(sqft)		496 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
16	Flat ceil/D/Shing		(0.241)	0.0/19.0	95		1.2	114 Btuh
	Ceiling Total					95(sqft)		114Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
13	Slab On Grade		(1.180)	0.0	19.5 ft(perim.)		47.2	920 Btuh
	Floor Total					95 sqft		920 Btuh
	Room Envelope Subtotal:							1711 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio		CFM=	
	Natural		0.24	855	0.09		7.6	331 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)						(DLM of 0.124)	252 Btuh

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Room #8	Sensible Room Subtotal	2294 Btuh
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Component Loads for Room #9: Owner Bath WIC

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
11	2, NFRC 0.22	Vinyl	0.30	W	20.0		12.0	240 Btuh
12	2, NFRC 0.22	Vinyl	0.30	W	6.0		12.0	72 Btuh
	Window Total				26.0(sqft)			312 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
14	Frame - Wood	- Ext	(0.077)	19.0/0.0	190		3.09	587 Btuh
	Wall Total				190(sqft)			587 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
17	Flat ceil/D/Shing		(0.241)	0.0/19.0	300		1.2	361 Btuh
	Ceiling Total				300(sqft)			361Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
14	Slab On Grade		(1.180)	0.0	24.0 ft(perim.)		47.2	1133 Btuh
	Floor Total				300 sqft			1133 Btuh
	Room Envelope Subtotal:							2394 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio	CFM=		Load
	Natural		0.24	2700	0.11	8.9		392 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DLM of 0.124)							344 Btuh
Room #9	Sensible Room Subtotal							3129 Btuh

Component Loads for Room #10: Owners Suite

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
13	2, NFRC 0.22	Vinyl	0.30	N	14.0		12.0	168 Btuh
14	2, NFRC 0.22	Vinyl	0.30	N	24.0		12.0	288 Btuh
15	2, NFRC 0.22	Vinyl	0.30	N	14.0		12.0	168 Btuh
16	2, NFRC 0.22	Vinyl	0.30	W	15.0		12.0	180 Btuh
	Window Total				67.0(sqft)			804 Btuh

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Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
15	Frame - Wood	- Ext	(0.077)	19.0/0.0	101	3.09	312 Btuh
16	Frame - Wood	- Ext	(0.077)	19.0/0.0	93	3.09	287 Btuh
17	Frame - Wood	- Ext	(0.077)	19.0/0.0	23	3.09	70 Btuh
18	Frame - Wood	- Ext	(0.077)	19.0/0.0	108	3.09	334 Btuh
	Wall Total					325(sqft)	1003 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
18	Flat ceil/D/Shing		(0.241)	0.0/19.0	39	1.2	47 Btuh
19	Flat ceil/D/Shing		(0.241)	0.0/19.0	90	1.2	108 Btuh
20	Flat ceil/D/Shing		(0.241)	0.0/19.0	41	1.2	50 Btuh
21	Flat ceil/D/Shing		(0.241)	0.0/19.0	75	1.2	90 Btuh
38	Knee wall/D/Shing		(0.241)	0.0/19.0	6	1.2	7 Btuh
39	Knee wall/D/Shing		(0.241)	0.0/19.0	5	1.2	6 Btuh
40	Knee wall/D/Shing		(0.241)	0.0/19.0	6	1.2	7 Btuh
41	Knee wall/D/Shing		(0.241)	0.0/19.0	5	1.2	6 Btuh
42	Knee wall/D/Shing		(0.241)	0.0/19.0	5	1.2	6 Btuh
43	Knee wall/D/Shing		(0.241)	0.0/19.0	4	1.2	5 Btuh
44	Knee wall/D/Shing		(0.241)	0.0/19.0	5	1.2	6 Btuh
45	Knee wall/D/Shing		(0.241)	0.0/19.0	4	1.2	5 Btuh
	Ceiling Total					284(sqft)	343Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
15	Slab On Grade		(1.180)	0.0	41.0 ft(perim.)	47.2	1935 Btuh
16	Slab On Grade		(1.180)	0.0	2.5 ft(perim.)	47.2	118 Btuh
	Floor Total					245 sqft	2053 Btuh
	Room Envelope Subtotal:						4203 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio	CFM=	Load
	Natural		0.24	2302	0.19	15.3	669 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)					(DLM of 0.124)	602 Btuh
Room #10	Sensible Room Subtotal						5473 Btuh

Component Loads for Room #11: Pantry

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
17	2, NFRC 0.22	Vinyl	0.30	S	8.0		12.0	96 Btuh
	Window Total					8.0(sqft)		96 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Kim & Jeff Delaney
CR 240
Lake City, FL 32024

Project Title:
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Building Type: User
KwikModel Base

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Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
19	Frame - Wood	- Ext	(0.077)	19.0/0.0	64	3.09	198 Btuh
	Wall Total				64(sqft)		198 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
22	Flat ceil/D/Shing		(0.241)	0.0/19.0	98	1.2	118 Btuh
	Ceiling Total				98(sqft)		118Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
17	Slab On Grade		(1.180)	0.0	8.0 ft(perim.)	47.2	378 Btuh
	Floor Total				98 sqft		378 Btuh
Room Envelope Subtotal:							789 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio	CFM=	Load
	Natural		0.24	880	0.04	3.0	132 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)					(DLM of 0.124)	114 Btuh
Room #11	Sensible Room Subtotal						1035 Btuh

Component Loads for Room #12: Vest hall

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
18	2, NFRC 0.22	Vinyl	0.30	S	15.0		12.0	180 Btuh
	Window Total				15.0(sqft)			180 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
20	Frame - Wood	- Ext	(0.077)	19.0/0.0	48		3.09	148 Btuh
21	Frame - Wood	- Ext	(0.077)	19.0/0.0	34		3.09	105 Btuh
	Wall Total				82(sqft)			253 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
3	Insulated - Exterior, m		(0.460)		20		18.4	368 Btuh
	Door Total				20(sqft)			368Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
23	Flat ceil/D/Shing		(0.241)	0.0/19.0	94		1.2	113 Btuh
24	Flat ceil/D/Shing		(0.241)	0.0/19.0	9		1.2	11 Btuh
25	Flat ceil/D/Shing		(0.241)	0.0/19.0	42		1.2	51 Btuh
	Ceiling Total				145(sqft)			174Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

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Project Title:
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Building Type: User
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Floors	Type	Ueff.	R-Value	Size X	HTM=	Load
18	Slab On Grade	(1.180)	0.0	0.0 ft(perim.)	47.2	0 Btuh
19	Slab On Grade	(1.180)	0.0	13.0 ft(perim.)	47.2	614 Btuh
20	Slab On Grade	(1.180)	0.0	0.0 ft(perim.)	47.2	0 Btuh
	Floor Total			145 sqft		614 Btuh
	Room Envelope Subtotal:					1589 Btuh
Infiltration	Type	Wholehouse ACH	Room Volume	Wall Ratio	CFM=	
	Natural	0.24	1303	0.05	3.9	169 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DLM of 0.124)	217 Btuh
Room #12	Sensible Room Subtotal					1976 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss Total Heat Loss	(Ex:0 cfm; Sup:0 cfm)	31273 Btuh 0 Btuh 31273 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	33000 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

Kim & Jeff Delaney
CR 240
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Reference City: Gainesville, FL (Defaults)
Humidity difference: 51gr.

Temperature Difference: 19.0F(TMY3 99%)
Summer Setpoint: 75 °F (Required Manual J default)

Component Loads for Room #1: Bath 2

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, 0.30	No	No	E		1.5ft	0.6ft	6.0	1.3	4.7	10	27	140 Btuh	
	Window Total								6 (sqft)					140 Btuh	
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load
1	Frame - Wood - Ext						0.08		Cav/Sheath 19.0/0.0		75.0		1.7		124 Btuh
	Wall Total										75 (sqft)				124 Btuh
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load
1	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		81.0		0.96		78 Btuh
	Ceiling Total										81 (sqft)				78 Btuh
Floors	Type								R-Value		Size		HTM		Load
1	Slab On Grade								0.0		81 (ft-perimeter)		0.0		0 Btuh
	Floor Total										81.0 (sqft)				0 Btuh
	Zone Envelope Subtotal:													342 Btuh	
Infiltration	Type						Wholehouse ACH		Volume(cuft)		Wall Ratio		CFM=		Load
	Natural						0.18		729		0.04		2.6		55 Btuh
Internal gain							Occupants		Btuh/occupant		Appliance				Load
							0		X 230		+		0		0 Btuh
	Sensible Envelope Load:													397 Btuh	
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)													62 Btuh	
	Sensible Zone Load													459 Btuh	

Component Loads for Room #2: Bed 2

Window	Type*						Overhang		Window Area(sqft)			HTM		Load		
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded			
2	2 NFRC	0.22, 0.30	No	No	N		1.5ft	0.6ft	30.0	0.0	30.0	10	10	310 Btuh		
	Window Total								30 (sqft)					310 Btuh		
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load	
									Cav/Sheath							
	2	Frame - Wood - Ext					0.08		19.0/0.0		87.0		1.7		144 Btuh	
	3	Frame - Wood - Ext					0.08		19.0/0.0		108.0		1.7		179 Btuh	
	4	Frame - Wood - Ext					0.08		19.0/0.0		108.0		1.7		179 Btuh	
	5	Frame - Wood - Ext					0.08		19.0/0.0		45.0		1.7		74 Btuh	
	Wall Total										348 (sqft)				575 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kim & Jeff Delaney
CR 240
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Project Title:
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Climate:FL_GAINESVILLE_REGIONAL_A

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Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
2	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	156.0	0.96	150 Btuh
3	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	32.5	0.96	31 Btuh
	Ceiling Total			189 (sqft)		182 Btuh
Floors	Type		R-Value	Size	HTM	Load
2	Slab On Grade		0.0	156 (ft-perimeter)	0.0	0 Btuh
3	Slab On Grade		0.0	33 (ft-perimeter)	0.0	0 Btuh
	Floor Total			188.5 (sqft)		0 Btuh
	Zone Envelope Subtotal:					1067 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.18	1697	0.20	12.3	256 Btuh
Internal gain	Occupants		Btuh/occupant	Appliance		Load
	1	X	230	+	0	230 Btuh
	Sensible Envelope Load:					1553 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					242 Btuh
	Sensible Zone Load					1795 Btuh

Component Loads for Room #3: Bed 3

Window	Type*					Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
3	2 NFRC	0.22, 0.30	No	No	S	7.5ft	0.6ft	30.0	30.0	0.0	10	12	310 Btuh
	Window Total							30 (sqft)					310 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load			
					Cav/Sheath								
6	Frame - Wood - Ext		0.08		19.0/0.0		82.5		1.7		136 Btuh		
7	Frame - Wood - Ext		0.08		19.0/0.0		40.5		1.7		67 Btuh		
8	Frame - Wood - Ext		0.08		19.0/0.0		103.5		1.7		171 Btuh		
	Wall Total						227 (sqft)				375 Btuh		
Ceilings	Type/Color/Surface	U-Value		R-Value		Area(sqft)		HTM		Load			
4	Unvented Attic/DarkShingle/RB		0.241		0.0/19.0		143.8		0.96		139 Btuh		
5	Unvented Attic/DarkShingle/RB		0.241		0.0/19.0		29.3		0.96		28 Btuh		
	Ceiling Total						173 (sqft)				167 Btuh		
Floors	Type	R-Value		Size		HTM		Load					
4	Slab On Grade		0.0		29 (ft-perimeter)		0.0		0 Btuh				
5	Slab On Grade		0.0		144 (ft-perimeter)		0.0		0 Btuh				
	Floor Total						173.0 (sqft)				0 Btuh		
	Zone Envelope Subtotal:										851 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kim & Jeff Delaney
CR 240
Lake City, FL 32024

Project Title:
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Climate:FL_GAINESVILLE_REGIONAL_A

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Infiltration	Type Natural	Wholehouse ACH 0.18	Volume(cuft) 1557	Wall Ratio 0.13	CFM= 8.0	Load 166 Btuh
Internal gain		Occupants 1	Btuh/occupant X 230	Appliance +	0	Load 230 Btuh
	Sensible Envelope Load:					1248 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					195 Btuh
	Sensible Zone Load					1442 Btuh

Component Loads for Room #4: Dinning

Window	Type*						Overhang		Window Area(sqft)			HTM		Load		
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded			
4	2 NFRC	0.22, 0.30	No	No	S		7.5ft	0.6ft	30.0	30.0	0.0	10	12	310 Btuh		
	Window Total								30 (sqft)					310 Btuh		
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load	
9	Frame - Wood - Ext						0.08		19.0/0.0		78.0		1.7		129 Btuh	
	Wall Total								78 (sqft)					129 Btuh		
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load	
6	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		30.0		0.96		29 Btuh	
7	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		26.0		0.96		25 Btuh	
8	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		82.0		0.96		79 Btuh	
26	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		3.0		0.96		3 Btuh	
27	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		4.0		0.96		4 Btuh	
28	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		3.0		0.96		3 Btuh	
29	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		4.0		0.96		4 Btuh	
30	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		2.5		0.96		2 Btuh	
31	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		3.5		0.96		3 Btuh	
32	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		2.5		0.96		2 Btuh	
33	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		3.5		0.96		3 Btuh	
	Ceiling Total								164 (sqft)					158 Btuh		
Floors	Type								R-Value		Size		HTM		Load	
6	Slab On Grade								0.0		138 (ft-perimeter)		0.0		0 Btuh	
	Floor Total								138.0 (sqft)					0 Btuh		
	Zone Envelope Subtotal:													597 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kim & Jeff Delaney
CR 240
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Project Title:
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Infiltration	Type Natural	Wholehouse ACH 0.18	Volume(cuft) 1285	Wall Ratio 0.04	CFM= 2.8	Load 57 Btuh
Internal gain		Occupants 0	Btuh/occupant X 230	Appliance +	0	Load 0 Btuh
	Sensible Envelope Load:					654 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					102 Btuh
	Sensible Zone Load					756 Btuh

Component Loads for Room #5: Foyer

Window	Type*					Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
5	2 NFRC	0.22, 0.30	No	No	S	7.5ft	0.6ft	24.0	24.0	0.0	10	12	248 Btuh
	Window Total							24 (sqft)					248 Btuh
Walls	Type	U-Value					R-Value		Area(sqft)		HTM		Load
10	Frame - Wood - Ext						Cav/Sheath						47 Btuh
	Wall Total						0.08 19.0/0.0		28.5 29 (sqft)		1.7		47 Btuh
Doors	Type								Area (sqft)		HTM		Load
1	Insulated - Exterior								24.0		9.9		238 Btuh
	Door Total								24 (sqft)				238 Btuh
Ceilings	Type/Color/Surface	U-Value					R-Value		Area(sqft)		HTM		Load
9	Unvented Attic/DarkShingle/RB	0.241					0.0/19.0		97.8		0.96		94 Btuh
	Ceiling Total								98 (sqft)				94 Btuh
Floors	Type						R-Value		Size		HTM		Load
7	Slab On Grade						0.0		98 (ft-perimeter)		0.0		0 Btuh
	Floor Total								97.8 (sqft)				0 Btuh
	Zone Envelope Subtotal:												627 Btuh

Infiltration	Type Natural	Wholehouse ACH 0.18	Volume(cuft) 880	Wall Ratio 0.02	CFM= 1.0	Load 21 Btuh
Internal gain		Occupants 0	Btuh/occupant X 230	Appliance +	0	Load 0 Btuh
	Sensible Envelope Load:					648 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					101 Btuh
	Sensible Zone Load					749 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kim & Jeff Delaney
CR 240
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Project Title:
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Component Loads for Room #6: Hall at beds

Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
10	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	64.8	0.96	62 Btuh
11	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	12.5	0.96	12 Btuh
12	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	11.3	0.96	11 Btuh
	Ceiling Total			89 (sqft)		85 Btuh
Floors	Type		R-Value	Size	HTM	Load
8	Slab On Grade		0.0	13 (ft-perimeter)	0.0	0 Btuh
9	Slab On Grade		0.0	65 (ft-perimeter)	0.0	0 Btuh
10	Slab On Grade		0.0	11 (ft-perimeter)	0.0	0 Btuh
	Floor Total			88.5 (sqft)		0 Btuh
	Zone Envelope Subtotal:					85 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.18	797	0.00	0.0	0 Btuh
Internal gain		Occupants	Btuh/occupant	Appliance		Load
		0	X 230	+	0	0 Btuh
	Sensible Envelope Load:					85 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					13 Btuh
	Sensible Zone Load					99 Btuh

Component Loads for Room #7: Kit Great

Window	Type*					Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
6	2 NFRC	0.22, 0.30	No	No	N	13.5f	0.6ft	16.0	0.0	16.0	10	10	165 Btuh
7	2 NFRC	0.22, 0.30	No	No	N	13.5f	0.6ft	18.0	0.0	18.0	10	10	186 Btuh
8	2 NFRC	0.22, 0.30	No	No	N	13.5f	0.6ft	18.0	0.0	18.0	10	10	186 Btuh
9	2 NFRC	0.22, 0.30	No	No	N	13.5f	0.0ft	16.0	0.0	16.0	10	10	165 Btuh
	Window Total							68 (sqft)					702 Btuh
Walls	Type	U-Value					R-Value		Area(sqft)		HTM		Load
							Cav/Sheath						
11	Frame - Wood - Ext	0.08					19.0/0.0		176.0		1.7		291 Btuh
	Wall Total							176 (sqft)					291 Btuh
Doors	Type						Area (sqft)			HTM		Load	
2	Insulated - Exterior						8.0			9.9		79 Btuh	
	Door Total							8 (sqft)					79 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kim & Jeff Delaney
CR 240
Lake City, FL 32024

Project Title:
250179 Delaney

Climate: FL_GAINESVILLE_REGIONAL_A

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Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
13	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	299.0	0.96	288 Btuh
14	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	285.6	0.96	275 Btuh
15	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	16.0	0.96	15 Btuh
34	Knee wall to attic/DarkShingle/RB	0.241	0.0/19.0	19.0	0.96	18 Btuh
35	Knee wall to attic/DarkShingle/RB	0.241	0.0/19.0	18.0	0.96	17 Btuh
36	Knee wall to attic/DarkShingle/RB	0.241	0.0/19.0	19.0	0.96	18 Btuh
37	Knee wall to attic/DarkShingle/RB	0.241	0.0/19.0	18.0	0.96	17 Btuh
	Ceiling Total			675 (sqft)		650 Btuh
Floors	Type		R-Value	Size	HTM	Load
11	Slab On Grade		0.0	16 (ft-perimeter)	0.0	0 Btuh
12	Slab On Grade		0.0	537 (ft-perimeter)	0.0	0 Btuh
	Floor Total			552.5 (sqft)		0 Btuh
	Zone Envelope Subtotal:					1723 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.18	6045	0.10	6.2	129 Btuh
Internal gain	Occupants		Btuh/occupant	Appliance		Load
	1	X	230	+	2400	2630 Btuh
	Sensible Envelope Load:					4482 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					699 Btuh
	Sensible Zone Load					5182 Btuh

Component Loads for Room #8: Laundry

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
10	2 NFRC	0.22, 0.30	No	No	S		1.5ft	0.6ft	15.0	15.0	0.0	10	12	155 Btuh
	Window Total								15 (sqft)					155 Btuh
Walls	Type	U-Value						R-Value		Area(sqft)		HTM		Load
								Cav/Sheath						
12	Frame - Wood - Ext	0.08						19.0/0.0		75.0		1.7		124 Btuh
13	Frame - Wood - Ext	0.08						19.0/0.0		85.5		1.7		141 Btuh
	Wall Total								161 (sqft)					265 Btuh
Ceilings	Type/Color/Surface	U-Value						R-Value		Area(sqft)		HTM		Load
16	Unvented Attic/DarkShingle/RB	0.241						0.0/19.0		95.0		0.96		92 Btuh
	Ceiling Total								95 (sqft)					92 Btuh
Floors	Type							R-Value		Size		HTM		Load
13	Slab On Grade							0.0		95 (ft-perimeter)		0.0		0 Btuh
	Floor Total								95.0 (sqft)					0 Btuh
	Zone Envelope Subtotal:													512 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Kim & Jeff Delaney
CR 240
Lake City, FL 32024

Project Title:
250179 Delaney

Climate:FL_GAINESVILLE_REGIONAL_A

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Infiltration	Type Natural	Wholehouse ACH 0.18	Volume(cuft) 855	Wall Ratio 0.09	CFM= 5.7	Load 118 Btuh
Internal gain		Occupants 0	Btuh/occupant X 230	Appliance +	0	Load 0 Btuh
	Sensible Envelope Load:					630 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					98 Btuh
	Sensible Zone Load					728 Btuh

Component Loads for Room #9: Owner Bath WIC

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
11	2 NFRC	0.22, 0.30	No	No	No	W	1.5ft	0.6ft	20.0	2.6	17.4	10	27	495 Btuh
12	2 NFRC	0.22, 0.30	No	No	No	W	1.5ft	0.6ft	6.0	1.3	4.7	10	27	140 Btuh
	Window Total								26 (sqft)					635 Btuh
Walls	Type						U-Value		R-Value		Area(sqft)	HTM		Load
14	Frame - Wood - Ext						0.08		Cav/Sheath 19.0/0.0		190.0	1.7		314 Btuh
	Wall Total										190 (sqft)			314 Btuh
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)	HTM		Load
17	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		300.0	0.96		289 Btuh
	Ceiling Total										300 (sqft)			289 Btuh
Floors	Type						R-Value		Size			HTM		Load
14	Slab On Grade						0.0		300 (ft-perimeter)			0.0		0 Btuh
	Floor Total										300.0 (sqft)			0 Btuh
	Zone Envelope Subtotal:													1239 Btuh

Infiltration	Type Natural	Wholehouse ACH 0.18	Volume(cuft) 2700	Wall Ratio 0.11	CFM= 6.7	Load 140 Btuh
Internal gain		Occupants 0	Btuh/occupant X 230	Appliance +	0	Load 0 Btuh
	Sensible Envelope Load:					1378 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)					215 Btuh
	Sensible Zone Load					1594 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

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Component Loads for Room #10: Owners Suite

Window	Type*						Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
13	2 NFRC	0.22, 0.30	No	No	N		1.5ft	0.6ft	14.0	0.0	14.0	10	10	145 Btuh	
14	2 NFRC	0.22, 0.30	No	No	N		1.5ft	0.6ft	24.0	0.0	24.0	10	10	248 Btuh	
15	2 NFRC	0.22, 0.30	No	No	N		1.5ft	0.6ft	14.0	0.0	14.0	10	10	145 Btuh	
16	2 NFRC	0.22, 0.30	No	No	W		1.5ft	0.6ft	15.0	1.9	13.1	10	27	372 Btuh	
	Window Total								67 (sqft)					909 Btuh	
Walls	Type	U-Value						R-Value		Area(sqft)		HTM		Load	
								Cav/Sheath							
	15	Frame - Wood - Ext						0.08		19.0/0.0		101.0		1.7	167 Btuh
	16	Frame - Wood - Ext						0.08		19.0/0.0		93.0		1.7	154 Btuh
	17	Frame - Wood - Ext						0.08		19.0/0.0		22.5		1.7	37 Btuh
	18	Frame - Wood - Ext						0.08		19.0/0.0		108.0		1.7	179 Btuh
	Wall Total											325 (sqft)			537 Btuh
Ceilings	Type/Color/Surface	U-Value						R-Value		Area(sqft)		HTM		Load	
18	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		39.0		0.96		38 Btuh
19	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		90.0		0.96		87 Btuh
20	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		41.3		0.96		40 Btuh
21	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		75.0		0.96		72 Btuh
38	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		6.0		0.96		6 Btuh
39	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		5.0		0.96		5 Btuh
40	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		6.0		0.96		6 Btuh
41	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		5.0		0.96		5 Btuh
42	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		4.8		0.96		5 Btuh
43	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		3.8		0.96		4 Btuh
44	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		4.8		0.96		5 Btuh
45	Knee wall to attic/DarkShingle/RB						0.241		0.0/19.0		3.8		0.96		4 Btuh
	Ceiling Total											284 (sqft)			274 Btuh
Floors	Type							R-Value		Size		HTM		Load	
15	Slab On Grade								0.0		204 (ft-perimeter)		0.0		0 Btuh
16	Slab On Grade								0.0		41 (ft-perimeter)		0.0		0 Btuh
	Floor Total											245.3 (sqft)			0 Btuh
	Zone Envelope Subtotal:													1719 Btuh	
Infiltration	Type	Wholehouse ACH						Volume(cuft)		Wall Ratio		CFM=		Load	
	Natural							0.18		2302		0.19		11.5	238 Btuh
Internal gain							Occupants		Btuh/occupant		Appliance		Load		
							1		X 230		+		0	230 Btuh	
	Sensible Envelope Load:													2188 Btuh	
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic) (DGM of 0.156)													341 Btuh	
	Sensible Zone Load													2529 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

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Component Loads for Room #11: Pantry

Window	Type*						Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
17	2 NFRC	0.22, 0.30	No	No	S		7.5ft	0.6ft	8.0	8.0	0.0	10	12	83 Btuh	
	Window Total								8 (sqft)					83 Btuh	
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load
19	Frame - Wood - Ext						0.08		19.0/0.0		64.0		1.7		106 Btuh
	Wall Total										64 (sqft)				106 Btuh
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load
22	Unvented Attic/DarkShingle/RB						0.241		0.0/19.0		97.8		0.96		94 Btuh
	Ceiling Total										98 (sqft)				94 Btuh
Floors	Type								R-Value		Size		HTM		Load
17	Slab On Grade								0.0		98 (ft-perimeter)		0.0		0 Btuh
	Floor Total										97.8 (sqft)				0 Btuh
	Zone Envelope Subtotal:													283 Btuh	
Infiltration	Type						Wholehouse ACH		Volume(cuft)		Wall Ratio		CFM=		Load
	Natural						0.18		880		0.04		2.3		47 Btuh
Internal gain							Occupants		Btuh/occupant				Appliance		Load
							0		X 230		+		0		0 Btuh
	Sensible Envelope Load:													330 Btuh	
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)													(DGM of 0.156)	51 Btuh
	Sensible Zone Load													381 Btuh	

Component Loads for Room #12: Vest hall

Window	Type*					Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
18	2 NFRC	0.22, 0.30	No	No	S	1.5ft	0.6ft	15.0	15.0	0.0	10	12	155 Btuh	
	Window Total							15 (sqft)					155 Btuh	
Walls	Type	U-Value					R-Value		Area(sqft)		HTM		Load	
							Cav/Sheath							
	20	Frame - Wood - Ext					0.08		19.0/0.0		48.0		1.7	79 Btuh
	21	Frame - Wood - Ext					0.08		19.0/0.0		34.0		1.7	56 Btuh
		Wall Total									82 (sqft)			136 Btuh
Doors	Type								Area (sqft)		HTM		Load	
	3	Insulated - Exterior							20.0		9.9		198 Btuh	
		Door Total							20 (sqft)				198 Btuh	

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Residential Load - Component Details (continued)

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Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
23	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	94.0	0.96	91 Btuh
24	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	8.8	0.96	8 Btuh
25	Unvented Attic/DarkShingle/RB	0.241	0.0/19.0	42.0	0.96	40 Btuh
	Ceiling Total			145 (sqft)		140 Btuh
Floors	Type		R-Value	Size	HTM	Load
18	Slab On Grade		0.0	9 (ft-perimeter)	0.0	0 Btuh
19	Slab On Grade		0.0	42 (ft-perimeter)	0.0	0 Btuh
20	Slab On Grade		0.0	94 (ft-perimeter)	0.0	0 Btuh
	Floor Total			144.8 (sqft)		0 Btuh
	Zone Envelope Subtotal:					628 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.18	1303	0.05	2.9	60 Btuh
Internal gain		Occupants	Btuh/occupant	Appliance		Load
		0	X 230	+	0	0 Btuh
	Sensible Envelope Load:					688 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.156)	107 Btuh
	Sensible Zone Load					796 Btuh

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Residential Load - Component Details (continued)

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WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	14280 Btuh
	Sensible Duct Load	2229 Btuh
	Total Sensible Zone Loads	16509 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	16509 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	2136 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1297 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	4234 Btuh
	TOTAL GAIN	20743 Btuh

EQUIPMENT

1. Central Unit	#	33000 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