

Residential System Sizing Calculation

Summary

Udelhofen_Dominguez
SW Otter Lane
Ft. White, FL 32038

Project Title:
Udelhofen_Dominguez

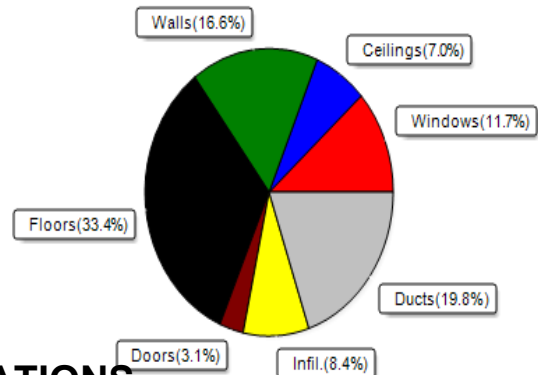
4/4/2025

Location for weather data: Ocala, FL - Defaults: Latitude(29.17) Altitude(89 ft.) Temp Range(M)			
Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(41gr.)			
Winter design temperature(MJ8 99%/Cu)	34 F	Summer design temperature(MJ8 99%/Cu)	99 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	36 F	Summer temperature difference	24 F
Total heating load calculation	21243 Btuh	Total cooling load calculation	19499 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	127.3 27035	Sensible (SHR = 0.75)	81.9 13414
Heat Pump + Auxiliary(0.0kW)	127.3 27035	Latent	143.5 4471
		Total (Electric Heat Pump)	91.7 17886

WINTER CALCULATIONS

Winter Heating Load (for 1549 sqft)

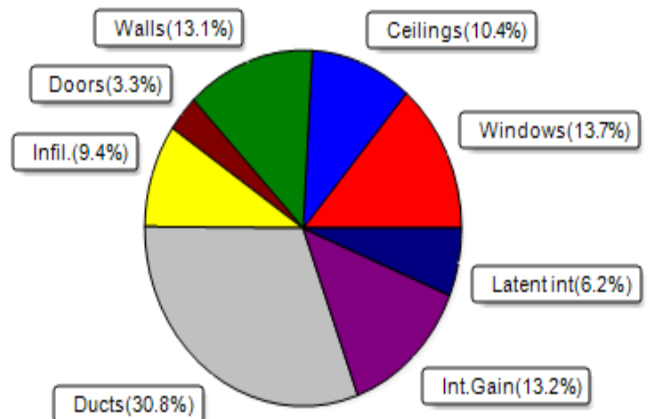
Load component	Load
Window total 192 sqft	2488 Btuh
Wall total 1268 sqft	3527 Btuh
Door total 40 sqft	662 Btuh
Ceiling total 1626 sqft	1486 Btuh
Floor total 1549 sqft	7086 Btuh
Infiltration 45 cfm	1777 Btuh
Duct loss	4216 Btuh
Subtotal	21243 Btuh
Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
TOTAL HEAT LOSS	21243 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1549 sqft)

Load component	Load
Window total 192 sqft	2673 Btuh
Wall total 1268 sqft	2554 Btuh
Door total 40 sqft	644 Btuh
Ceiling total 1626 sqft	2023 Btuh
Floor total	0 Btuh
Infiltration 34 cfm	889 Btuh
Internal gain	2580 Btuh
Duct gain	5020 Btuh
Sens.Ventilation Ex:0 cfm; Sup:0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	16382 Btuh
Latent gain(ducts)	978 Btuh
Latent gain(infiltration)	939 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	1200 Btuh
Total latent gain	3117 Btuh
TOTAL HEAT GAIN	19499 Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: _____

4 / 7 / 2025

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Udelhofen_Dominguez
SW Otter Lane
Ft. White, FL 32038

Project Title:
Udelhofen_Dominguez
Building Type: User

4/4/2025

Reference City: Ocala, FL (Defaults) Winter Temperature Difference: 36.0 °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	105.0		13.0	1361 Btuh
2	2, NFRC 0.25	Vinyl	0.36	E	15.0		13.0	194 Btuh
3	2, NFRC 0.25	Vinyl	0.36	N	12.0		13.0	156 Btuh
4	2, NFRC 0.25	Metal	0.36	N	40.0		13.0	518 Btuh
5	2, NFRC 0.25	TIM	0.36	N	20.0		13.0	259 Btuh
Window Total					192.0(sqft)			2488 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	373		2.78	1038 Btuh
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	237		2.78	659 Btuh
3	Frame - Wood	- Ext	(0.077)	19.0/0.0	426		2.78	1185 Btuh
4	Frame - Wood	- Ext	(0.077)	19.0/0.0	54		2.78	150 Btuh
5	Frame - Wood	- Adj	(0.077)	19.0/0.0	178		2.78	495 Btuh
Wall Total					1268(sqft)			3527 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.460)		20		16.6	331 Btuh
2	Insulated - Garage, n		(0.460)		20		16.6	331 Btuh
Door Total					40(sqft)			662Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
1	Flat ceil/D/Metal		(0.025)	38.0/0.0	1626		0.91	1486 Btuh
Ceiling Total					1626(sqft)			1486Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	166.8 ft(perim.)		42.5	7086 Btuh
Floor Total					1549 sqft			7086 Btuh
Envelope Subtotal:								15250 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=		Load
	Natural		0.19	13941	1.00	45.0		1777 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.248)							4216 Btuh
All Zones	Sensible Subtotal All Zones							21243 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Udelhofen_Dominguez
SW Otter Lane
Ft. White, FL 32038

Project Title:
Udelhofen_Dominguez
Building Type: User

4/4/2025

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	21243 Btuh
	Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss	21243 Btuh

EQUIPMENT

1. Electric Heat Pump	#	27035 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

Udelhofen_Dominguez
SW Otter Lane
Ft. White, FL 32038

Project Title:
Udelhofen_Dominguez

4/4/2025

Reference City: Ocala, FL (Defaults)
Humidity difference: 41gr.

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.	1.0ft.	105.0	105.0	0.0	14	16	1462	Btuh		
2	2 NFRC	0.25, 0.36	No	No	E		7.5ft.	1.0ft.	15.0	15.0	0.0	14	33	209	Btuh		
3	2 NFRC	0.25, 0.36	No	No	N		16.5f	1.0ft.	12.0	0.0	12.0	14	14	167	Btuh		
4	2 NFRC	0.25, 0.36	No	No	N		16.5f	1.0ft.	40.0	0.0	40.0	14	14	557	Btuh		
5	2 NFRC	0.25, 0.36	No	No	N		16.5f	1.0ft.	20.0	0.0	20.0	14	14	278	Btuh		
	Window Total								192 (sqft)					2673 Btuh			
Walls	Type	U-Value			R-Value			Area(sqft)			HTM		Load				
1	Frame - Wood - Ext	0.08			19.0/0.0			373.0			2.0		761		Btuh		
2	Frame - Wood - Ext	0.08			19.0/0.0			237.0			2.0		483		Btuh		
3	Frame - Wood - Ext	0.08			19.0/0.0			426.0			2.0		869		Btuh		
4	Frame - Wood - Ext	0.08			19.0/0.0			54.0			2.0		110		Btuh		
5	Frame - Wood - Adj	0.08			19.0/0.0			178.0			1.9		330		Btuh		
	Wall Total								1268 (sqft)					2554 Btuh			
Doors	Type	U-Value			R-Value			Area (sqft)			HTM		Load				
1	Insulated - Exterior	0.08			19.0/0.0			20.0			16.1		322		Btuh		
2	Insulated - Garage	0.08			19.0/0.0			20.0			16.1		322		Btuh		
	Door Total								40 (sqft)					644 Btuh			
Ceilings	Type/Color/Surface	U-Value			R-Value			Area(sqft)			HTM		Load				
1	Vented Attic/DarkMetal/RB	0.025			38.0/0.0			1626.4			1.24		2023		Btuh		
	Ceiling Total								1626 (sqft)					2023 Btuh			
Floors	Type	U-Value			R-Value			Size			HTM		Load				
1	Slab On Grade	0.08			19.0/0.0			1549 (ft-perimeter)			0.0		0		Btuh		
	Floor Total								1549.0 (sqft)					0 Btuh			
	Envelope Subtotal:													7893 Btuh			
Infiltration	Type	Average ACH			Volume(cuft)			Wall Ratio			CFM=		Load				
	Natural																
		0.15			13941			1			33.8		889		Btuh		
Internal gain		Occupants			Btuh/occupant			Appliance			Load						
		6			X 230			+			1200		2580		Btuh		
	Sensible Envelope Load:													11362 Btuh			
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)													(DGM of 0.442)		5020 Btuh	
	Sensible Load All Zones													16382 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

Udelhofen_Dominguez
SW Otter Lane
Ft. White, FL 32038

Project Title:
Udelhofen_Dominguez

Climate:FL_OCALA_MUNI_(AWOS)

4/4/2025

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	11362 Btuh
	Sensible Duct Load	5020 Btuh
	Total Sensible Zone Loads	16382 Btuh
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	16382 Btuh
	Latent infiltration gain (for 41 gr. humidity difference)	939 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	978 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3117 Btuh
	TOTAL GAIN	19499 Btuh

EQUIPMENT

1. Central Unit	#	17886 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