Residential System Sizing Calculation

Summary

Project Title:
Fords Septic Service

116 NW Lawtey Way
Lake City, FL 32055

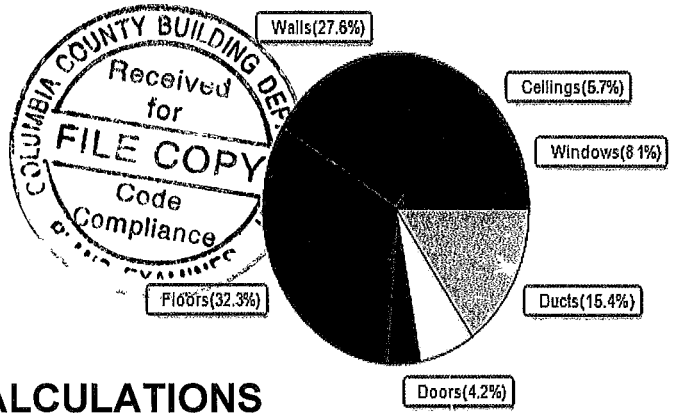
3/2/2026

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	**16197**	**Btuh**	**Total cooling load calculation**	**14954**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	108.0	17497	Sensible (SHR = 0.75)	80.0	10189
Heat Pump + Auxiliary(0.0kW)	108.0	17497	Latent	153.2	3396
			Total (Electric Heat Pump)	90.8	13585

WINTER CALCULATIONS

Winter Heating Load (for 900 sqft)

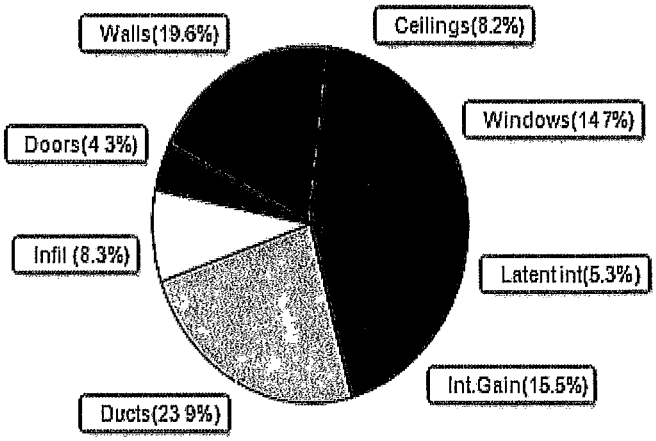
Load component			Load	
Window total	99	sqft	1319	Btuh
Wall total	821	sqft	4467	Btuh
Door total	40	sqft	681	Btuh
Ceiling total	990	sqft	930	Btuh
Floor total	900	sqft	5239	Btuh
Infiltration	26	cfm	1067	Btuh
Duct loss			2495	Btuh
Subtotal			**16197**	**Btuh**
Ventilation	Ex:0 cfm, Sup.0 cfm		0	Btuh
TOTAL HEAT LOSS			**16197**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 900 sqft)

Load component			Load	
Window total	99	sqft	2204	Btuh
Wall total	821	sqft	2933	Btuh
Door total	40	sqft	644	Btuh
Ceiling total	990	sqft	1231	Btuh
Floor total			0	Btuh
Infiltration	20	cfm	519	Btuh
Internal gain			2320	Btuh
Duct gain			2885	Btuh
Sens.Ventilation	Ex:0 cfm, Sup:0 cfm		0	Btuh
Blower Load			0	Btuh
Total sensible gain			**12737**	**Btuh**
Latent gain(ducts)			695	Btuh
Latent gain(infiltration)			722	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			800	Btuh
Total latent gain			**2217**	**Btuh**
TOTAL HEAT GAIN			**14954**	**Btuh**



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EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 3 / 2 / 2026

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

116 NW Lawtey Way
Lake City, FL 32055

Project Title:
Fords Septic Service
Building Type: User

3/2/2026

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	E	30.0	13.3	400 Btuh
2	2, NFRC 0.25	Vinyl	0.36	N	15 0	13.3	200 Btuh
3	2, NFRC 0.25	Vinyl	0 36	S	9.0	13.3	120 Btuh
4	2, NFRC 0.25	Vinyl	0.36	W	45.0	13.3	599 Btuh
	Window Total				99.0(sqft)		1319 Btuh
Walls	Type	Ornt.	Ueff	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.147)	4.2/0.0	190	5.44	1034 Btuh
2	Conc Blk,Hollow - Ext		(0 147)	4.2/0.0	205	5.44	1115 Btuh
3	Conc Blk,Hollow - Ext		(0 147)	4.2/0.0	231	5.44	1257 Btuh
4	Conc Blk,Hollow - Ext		(0 147)	4.2/0.0	195	5 44	1061 Btuh
	Wall Total				821(sqft)		4467 Btuh
Doors	Type	Storm	Ueff		Area X	HTM=	Load
1	Insulated - Exterior,	n	(0.460)		20	17.0	340 Btuh
2	Insulated - Exterior,	n	(0.460)		20	17.0	340 Btuh
	Door Total				40(sqft)		681Btuh
Ceilings	Type/Color/Surface		Ueff	R-Value	Area X	HTM=	Load
1	Flat ceil/D/Metal		(0 025)	38 0/0.0	990	0.94	930 Btuh
	Ceiling Total				990(sqft)		930Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
1	Slab On Grade		(1 180)	0.0	120.0 ft(perim.)	43.7	5239 Btuh
	Floor Total				900 sqft		5239 Btuh
					Envelope Subtotal		12635 Btuh

Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.22	7200	1.00	26.3	1067 Btuh
Duct load	Average sealed, R6 0, Supply(Att), Return(Att)				(DLM of 0.182)		2495 Btuh
All Zones	**Sensible Subtotal All Zones**						**16197 Btuh**

Manual J Winter Calculations

Residential Load - Component Details (continued)

116 NW Lawtey Way
Lake City, FL 32055

Project Title:
Fords Septic Service
Building Type: User

3/2/2026

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss	16197 Btuh 0 Btuh 16197 Btuh

EQUIPMENT

1 Electric Heat Pump	#	17497 Btuh

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)

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System Sizing Calculations - Summer

Residential Load - Whole House Component Details

116 NW Lawtey Way
Lake City, FL 32055

Project Title:
Fords Septic Service

3/2/2026

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

	Type*					Overhang		Window Area(sqft)			HTM		Load
Window	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2 NFRC	0 25, 0 36		No	No	E	7 5ft	0 5ft	30 0	30 0	0 0	14	33	417 Btuh
2	2 NFRC	0 25, 0 36		No	No	N	1 5ft	0 5ft	15 0	0 0	15 0	14	14	208 Btuh
3	2 NFRC	0 25, 0 36		No	No	S	1 5ft	0 5ft	9 0	9 0	0 0	14	16	125 Btuh
4	2 NFRC	0 25, 0 36		No	No	W	1 5ft	0 5ft	45 0	6 7	38 3	14	33	1347 Btuh
	Excursion													106 Btuh
	Window Total								99 (sqft)					2204 Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load
1	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	190 0	3 6	679 Btuh
2	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	205 0	3 6	732 Btuh
3	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	231 0	3 6	825 Btuh
4	Concrete Blk,Hollow- Ext	0 15	4 2/0 0	195 0	3 6	697 Btuh
	Wall Total			821 (sqft)		2933 Btuh

Doors	Type	Area (sqft)	HTM	Load
1	Insulated - Exterior	20 0	16 1	322 Btuh
2	Insulated - Exterior	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	990 0	1 24	1231 Btuh
	Ceiling Total			990 (sqft)		1231 Btuh

Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0 0	900 (ft-perimeter)	0 0	0 Btuh
	Floor Total		900 0 (sqft)		0 Btuh
			Envelope Subtotal		7013 Btuh

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.16	7200	1	19.8	519 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		4	X 230	+	1400	2320 Btuh
				Sensible Envelope Load:		9852 Btuh
Duct load	Average sealed,Supply(R6 0-Attic), Return(R6 0-Attic)			(DGM of 0.293)		2885 Btuh
				Sensible Load All Zones		**12737 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A

116 NW Lawtey Way
Lake City, FL 32055

Fords Septic Service

3/2/2026

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**9852 Btuh**
	Sensible Duct Load	2885 Btuh
	Total Sensible Zone Loads	**12737 Btuh**
	Sensible ventilation (Ex:0 cfm, Sup:0 cfm)	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**12737 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	722 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	695 Btuh
	Latent occupant gain (4.0 people @ 200 Btuh per person)	800 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**2217 Btuh**
	TOTAL GAIN	**14954 Btuh**

EQUIPMENT

1. Central Unit	#	13585 Btuh

*Key Window types (Panes - 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)

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