

System Sizing Calculation

Summary

Project Title
Willis Office

, FL

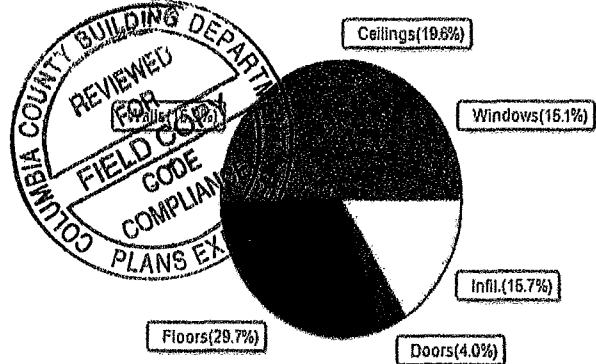
3/2/2026

| | | | | | |
|---|-------------------|---------------------------------------|-------------------|--|--|
| Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(100 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 | 49315 Btuh | Total cooling load calculation | 67911 Btuh | | |
| Submitted heating capacity | % of calc Btuh | Submitted cooling capacity | % of calc Btuh | | |
| Total (Electric Heat Pump) | 243.3 120000 | Sensible (SHR = 0.78) | 186.0 93600 | | |
| Heat Pump + Auxiliary(0 0kW) | 243 3 120000 | Latent | 150.2 26400 | | |
| | | Total (Electric Heat Pump) | 176.7 120000 | | |

WINTER CALCULATIONS

Winter Heating Load (for 5150 sqft)

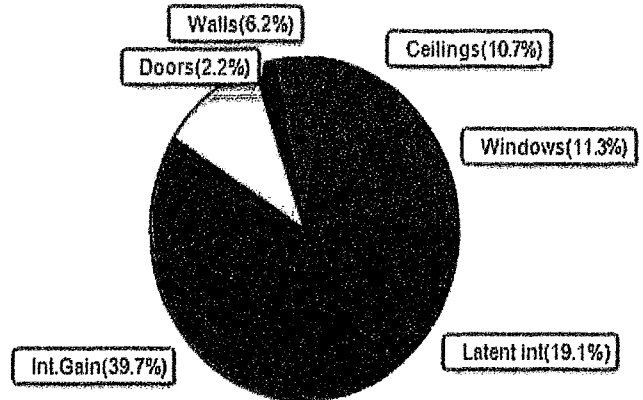
| Load component | | Load | |
|------------------------|---------------------|--------------|-------------|
| Window total | 716 sqft | 7450 | Btuh |
| Wall total | 2531 sqft | 7822 | Btuh |
| Door total | 108 sqft | 1987 | Btuh |
| Ceiling total | 5150 sqft | 9680 | Btuh |
| Floor total | 5150 sqft | 14632 | Btuh |
| Infiltration | 177 cfm | 7743 | Btuh |
| Duct loss | | 0 | Btuh |
| Subtotal | | 49315 | Btuh |
| Ventilation | Ex 0 cfm, Sup 0 cfm | 0 | Btuh |
| TOTAL HEAT LOSS | | 49315 | Btuh |



SUMMER CALCULATIONS

Summer Cooling Load (for 5150 sqft)

| Load component | | Load | |
|---------------------------------------|---------------------|--------------|-------------|
| Window total | 716 sqft | 7690 | Btuh |
| Wall total | 2531 sqft | 4185 | Btuh |
| Door total | 108 sqft | 1490 | Btuh |
| Ceiling total | 5150 sqft | 7260 | Btuh |
| Floor total | | 0 | Btuh |
| Infiltration | 132 cfm | 2759 | Btuh |
| Internal gain | | 26950 | Btuh |
| Duct gain | | 0 | Btuh |
| Sens Ventilation | Ex 0 cfm, Sup 0 cfm | 0 | Btuh |
| Blower Load | | 0 | Btuh |
| Total sensible gain | | 50334 | Btuh |
| Latent gain(ducts) | | 0 | Btuh |
| Latent gain(infiltration) | | 4577 | Btuh |
| Latent gain(ventilation) | | 0 | Btuh |
| Latent gain(internal/occupants/other) | | 13000 | Btuh |
| Total latent gain | | 17577 | Btuh |
| TOTAL HEAT GAIN | | 67911 | Btuh |



8th Edition

EnergyGauge® System Sizing

PREPARED BY _____

DATE 3-2-26

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Project Title:
Willis Office

, FL

3/2/2026

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 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 | 0.20 | 0.26 | No | No | N | 1.5ft | 1.3ft | 90.0 | 0.0 | 90.0 | 9 | 9 | 823 Btuh |
| 2 | 2 NFRC | 0.20 | 0.26 | No | No | E | 1.5ft | 1.3ft | 30.0 | 0.0 | 30.0 | 9 | 24 | 727 Btuh |
| 3 | 2 NFRC | 0.20 | 0.26 | No | No | S | 1.5ft | 1.3ft | 108.0 | 108.0 | 0.0 | 9 | 11 | 988 Btuh |
| 4 | 2 NFRC | 0.20 | 0.26 | No | No | S | 1.5ft | 1.3ft | 65.1 | 39.5 | 25.5 | 9 | 11 | 635 Btuh |
| 5 | 2 NFRC | 0.20 | 0.26 | No | No | S | 1.5ft | 1.3ft | 81.6 | 39.5 | 42.0 | 9 | 11 | 812 Btuh |
| 6 | 2 NFRC | 0.20 | 0.26 | No | No | S | 1.5ft | 1.3ft | 57.0 | 43.1 | 13.9 | 9 | 11 | 543 Btuh |
| 7 | 2 NFRC | 0.20 | 0.26 | No | No | S | 1.5ft | 1.3ft | 81.6 | 39.5 | 42.0 | 9 | 11 | 812 Btuh |
| 8 | 2 NFRC | 0.20 | 0.26 | No | No | S | 1.5ft | 1.3ft | 65.1 | 39.5 | 25.5 | 9 | 11 | 635 Btuh |
| 9 | 2 NFRC | 0.20 | 0.26 | No | No | S | 1.5ft | 1.3ft | 108.0 | 108.0 | 0.0 | 9 | 11 | 988 Btuh |
| 10 | 2 NFRC | 0.20 | 0.26 | No | No | W | 1.5ft | 1.3ft | 15.0 | 0.0 | 15.0 | 9 | 24 | 363 Btuh |
| 11 | 2 NFRC | 0.20 | 0.26 | No | No | W | 1.5ft | 1.3ft | 15.0 | 0.0 | 15.0 | 9 | 24 | 363 Btuh |
| Window Total | | | | | | | | | | | 716 (sqft) | | 7690 Btuh | |
| Walls | Type | U-Value | R-Value | Area(sqft) | | HTM | Load | | | | | | | |
| | | | | Cav/Sheath | | | | | | | | | | |
| 1 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 910.0 | | 1.7 | 1505 Btuh | | | | | | | |
| 2 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 430.0 | | 1.7 | 711 Btuh | | | | | | | |
| 3 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 242.0 | | 1.7 | 400 Btuh | | | | | | | |
| 4 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 50.0 | | 1.7 | 83 Btuh | | | | | | | |
| 5 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 156.7 | | 1.7 | 259 Btuh | | | | | | | |
| 6 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 50.0 | | 1.7 | 83 Btuh | | | | | | | |
| 7 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 242.0 | | 1.7 | 400 Btuh | | | | | | | |
| 8 | Frame - Wood - Ext | 0.08 | 19.0/0.0 | 450.0 | | 1.7 | 744 Btuh | | | | | | | |
| Wall Total | | | | 2531 (sqft) | | 4185 Btuh | | | | | | | | |
| Doors | Type | Area (sqft) | | HTM | Load | | | | | | | | | |
| 1 | Insulated - Exterior | 20.0 | | 13.8 | 276 Btuh | | | | | | | | | |
| 2 | Insulated - Exterior | 20.0 | | 13.8 | 276 Btuh | | | | | | | | | |
| 3 | Insulated - Exterior | 48.0 | | 13.8 | 662 Btuh | | | | | | | | | |
| 4 | Insulated - Exterior | 20.0 | | 13.8 | 276 Btuh | | | | | | | | | |
| Door Total | | 108 (sqft) | | 1490 Btuh | | | | | | | | | | |
| Ceilings | Type/Color/Surface | U-Value | R-Value | Area(sqft) | HTM | Load | | | | | | | | |
| 1 | SnglAsmb no airsp/DarkMetal | 0.047 | 21.0/0.0 | 5150.0 | 1.41 | 7260 Btuh | | | | | | | | |
| Ceiling Total | | | | 5150 (sqft) | | 7260 Btuh | | | | | | | | |
| Floors | Type | R-Value | Size | HTM | Load | | | | | | | | | |
| 1 | Slab On Grade | 0.0 | 5150 (ft-perimeter) | 0.0 | 0 Btuh | | | | | | | | | |
| Floor Total | | | | 5150.0 (sqft) | | 0 Btuh | | | | | | | | |
| Envelope Subtotal: | | | | | | 20625 Btuh | | | | | | | | |

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title. Climate: FL_GAINESVILLE_REGIONAL_A
Willis Office

, FL

3/2/2026

| | | | | | | |
|----------------------|--|---------------------|------------------------|-----------------|--------------------|--------------------|
| Infiltration | Type Natural | Average ACH 0 15 | Volume(cuft) 51500 | Wall Ratio 1 | CFM= 132.4 | Load 2759 Btuh |
| Internal gain | | Occupants 65 | Btuh/occupant X 230 | + | Appliance 12000 | Load 26950 Btuh |
| | Sensible Envelope Load. | | | | | 50334 Btuh |
| Duct load | Extremely sealed, Supply(R6 0-Condi), Return(R6 0-Condi) | | | | (DGM of 0.000) | 0 Btuh |
| | Sensible Load All Zones | | | | | 50334 Btuh |

Manual J Summer Calculations

Residential Load - Component Details (continued)

Project Title: Climate:FL_GAINESVILLE_REGIONAL_A
Willis Office

, FL

3/2/2026

WHOLE HOUSE TOTALS

| | | |
|---|--|-------------------|
| Whole House Totals for Cooling | Sensible Envelope Load All Zones | 50334 Btuh |
| | Sensible Duct Load | 0 Btuh |
| | Total Sensible Zone Loads | 50334 Btuh |
| | Sensible ventilation (Ex.0 cfm; Sup:0 cfm) | 0 Btuh |
| | Blower | 0 Btuh |
| | Total sensible gain | 50334 Btuh |
| | Latent infiltration gain (for 51 gr humidity difference) | 4577 Btuh |
| | Latent ventilation gain | 0 Btuh |
| | Latent duct gain | 0 Btuh |
| | Latent occupant gain (65 0 people @ 200 Btuh per person) | 13000 Btuh |
| | Latent other gain | 0 Btuh |
| | Latent total gain | 17577 Btuh |
| | TOTAL GAIN | 67911 Btuh |

EQUIPMENT

| | | |
|----------------|--------------------|-------------|
| 1 Central Unit | Multiple #Multiple | 120000 Btuh |
|----------------|--------------------|-------------|

*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))
 (Omt - compass orientation)



Version 8

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Project Title:
Willis Office
Building Type: User

, FL

3/2/2026

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference. 40.0 °F (TMY3 99%)
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 0.20 | Vinyl | 0.26 | N | 90.0 | | 936 Btuh |
| 2 | 2, NFRC 0.20 | Vinyl | 0.26 | E | 30.0 | | 312 Btuh |
| 3 | 2, NFRC 0.20 | Vinyl | 0.26 | S | 108.0 | | 1123 Btuh |
| 4 | 2, NFRC 0.20 | Vinyl | 0.26 | S | 65.1 | | 677 Btuh |
| 5 | 2, NFRC 0.20 | Vinyl | 0.26 | S | 81.6 | | 848 Btuh |
| 6 | 2, NFRC 0.20 | Vinyl | 0.26 | S | 57.0 | | 593 Btuh |
| 7 | 2, NFRC 0.20 | Vinyl | 0.26 | S | 81.6 | | 848 Btuh |
| 8 | 2, NFRC 0.20 | Vinyl | 0.26 | S | 65.1 | | 677 Btuh |
| 9 | 2, NFRC 0.20 | Vinyl | 0.26 | S | 108.0 | | 1123 Btuh |
| 10 | 2, NFRC 0.20 | Vinyl | 0.26 | W | 15.0 | | 156 Btuh |
| 11 | 2, NFRC 0.20 | Vinyl | 0.26 | W | 15.0 | | 156 Btuh |
| | | | | | Window Total | | 7450 Btuh |
| | | | | | 716.3(sqft) | | |
| Walls | Type | Ornt | Ueff. | R-Value (Cav/Sh) | Area | X | HTM= Load |
| 1 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 910 | | 2813 Btuh |
| 2 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 430 | | 1329 Btuh |
| 3 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 242 | | 748 Btuh |
| 4 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 50 | | 155 Btuh |
| 5 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 157 | | 484 Btuh |
| 6 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 50 | | 155 Btuh |
| 7 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 242 | | 748 Btuh |
| 8 | Frame - Wood | - Ext | (0.077) | 19.0/0.0 | 450 | | 1391 Btuh |
| | | | | | Wall Total | | 7822 Btuh |
| | | | | | 2531(sqft) | | |
| Doors | Type | Storm | Ueff. | Area | X | HTM= Load | |
| 1 | Insulated - Exterior, n | | (0.460) | 20 | | 368 Btuh | |
| 2 | Insulated - Exterior, n | | (0.460) | 20 | | 368 Btuh | |
| 3 | Insulated - Exterior, n | | (0.460) | 48 | | 883 Btuh | |
| 4 | Insulated - Exterior, n | | (0.460) | 20 | | 368 Btuh | |
| | | | | | Door Total | | 1987 Btuh |
| | | | | | 108(sqft) | | |
| Ceilings | Type/Color/Surface | Ueff. | R-Value | Area | X | HTM= Load | |
| 1 | Single as/D/Metal | (0.047) | 21.0/0.0 | 5150 | | 9680 Btuh | |
| | | | | | Ceiling Total | | 9680 Btuh |
| | | | | | 5150(sqft) | | |
| Floors | Type | Ueff. | R-Value | Size | X | HTM= Load | |
| 1 | Slab On Grade | (1.180) | 0.0 | 310.0 ft(perim.) | | 14632 Btuh | |
| | | | | | Floor Total | | 14632 Btuh |
| | | | | | 5150 sqft | | |
| Envelope Subtotal. | | | | | | | 41572 Btuh |
| Infiltration | Type | Wholehouse ACH | Volume(cuft) | Wall Ratio | CFM= Load | | |
| | Natural | 0.21 | 51500 | 1.00 | 176.5 | 7743 Btuh | |

Manual J Winter Calculations

Residential Load - Component Details (continued)

, FL

Project Title.
Willis Office
Building Type: User

3/2/2026

| | | |
|------------------|---|-------------------|
| Duct load | Extremely sealed, R6.0, Supply(Con), Return(Con) (DLM of 0.000) | 0 Btuh |
| All Zones | Sensible Subtotal All Zones | 49315 Btuh |

WHOLE HOUSE TOTALS

| | | |
|---------------------------|---|------------------------------------|
| Totals for Heating | Subtotal Sensible Heat Loss Ventilation Sens. Heat Loss (Ex:0 cfm; Sup:0 cfm) Total Heat Loss | 49315 Btuh 0 Btuh 49315 Btuh |
|---------------------------|---|------------------------------------|

EQUIPMENT

| | | |
|----------------------|--------------------|-------------|
| 1 Electric Heat Pump | Multiple #Multiple | 120000 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)



Version 8