

Residential System Sizing Calculation

Summary

Trent Giebeig

Project Title:
Lot 38 Crosswinds

Lake City, FL 32025

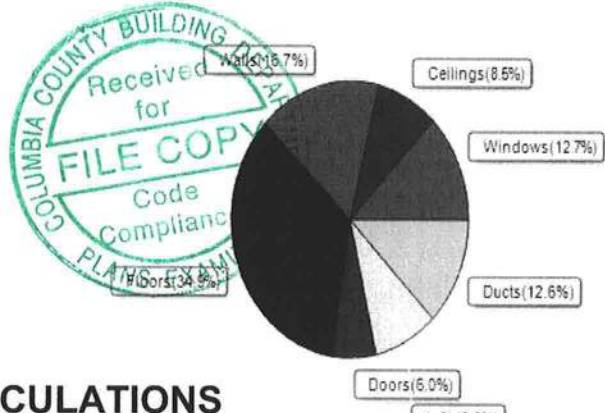
4/14/2021

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	23917 Btuh	Total cooling load calculation	16465 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	100.0 23917	Sensible (SHR = 0.75)	104.3 12349
Heat Pump + Auxiliary(0.0kW)	100.0 23917	Latent	89.0 4116
		Total (Electric Heat Pump)	100.0 16465

WINTER CALCULATIONS

Winter Heating Load (for 1600 sqft)

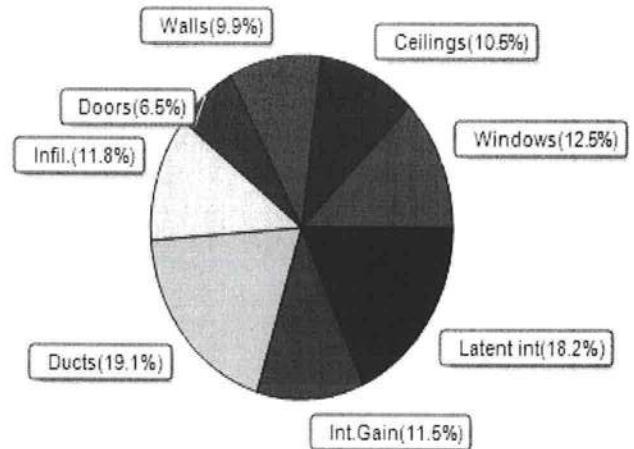
Load component		Load
Window total	138 sqft	3036 Btuh
Wall total	1232 sqft	3982 Btuh
Door total	78 sqft	1431 Btuh
Ceiling total	1600 sqft	2038 Btuh
Floor total	1600 sqft	8354 Btuh
Infiltration	47 cfm	2050 Btuh
Duct loss		3025 Btuh
Subtotal		23917 Btuh
Ventilation	0 cfm	0 Btuh
TOTAL HEAT LOSS		23917 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1600 sqft)

Load component		Load
Window total	138 sqft	2054 Btuh
Wall total	1232 sqft	1631 Btuh
Door total	78 sqft	1073 Btuh
Ceiling total	1600 sqft	1732 Btuh
Floor total		0 Btuh
Infiltration	35 cfm	730 Btuh
Internal gain		1890 Btuh
Duct gain		2727 Btuh
Sens. Ventilation	0 cfm	0 Btuh
Blower Load		0 Btuh
Total sensible gain		11838 Btuh
Latent gain(ducts)		415 Btuh
Latent gain(infiltration)		1212 Btuh
Latent gain(ventilation)		0 Btuh
Latent gain(internal/occupants/other)		3000 Btuh
Total latent gain		4627 Btuh
TOTAL HEAT GAIN		16465 Btuh



8th Edition

EnergyGauge® System Sizing
PREPARED BY: *William H. Freeman*
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