

Project Information

For: 175 SE Stardust Place, Lake City, FL 32024

Notes:

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db 33 °F
Inside db 70 °F
Design TD 37 °F

Ventilation Method MJ8

Heating Summary

Structure 7565 Btuh
Ducts (R-6.0) 1922 Btuh
Central vent (0 cfm) 0 Btuh

Humidification 0 Btuh
Piping 0 Btuh
Equipment load 9487 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	540	540
Volume (ft ³)	4856	4856
Air changes/hour	0.61	0.32
Equiv. AVF (cfm)	49	26

Heating Equipment Summary

Make Mitsubishi Electric
Trade Mitsubishi Electric
Model MUZ-WR18NA***
AHRI ref 209832270

Efficiency 8.5 HSPF2
Heating input 18000 Btuh @ 47°F
Heating output 29 °F
Temperature rise 573 cfm
Actual air flow 0.060 cfm/Btuh
Air flow factor 0 in H2O
Static pressure
Space thermostat
Capacity balance point = 16 °F

Backup:
Input = 3 kW, Output = 9336 Btuh, 100 AFUE

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 43 gr/lb

Sensible Cooling Equipment Load Sizing

Structure 10827 Btuh
Ducts (R-6.0) 2404 Btuh
Central vent (0 cfm) 0 Btuh

Blower 0 Btuh

Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 12887 Btuh

Latent Cooling Equipment Load Sizing

Structure 1162 Btuh
Ducts 530 Btuh
Central vent (0 cfm) 0 Btuh

Equipment latent load 1692 Btuh

Equipment Total Load (Sen+Lat) 14579 Btuh
Req. total capacity at 0.80 SHR 1.3 ton

Cooling Equipment Summary

Make Mitsubishi Electric
Trade Mitsubishi Electric
Cond MUZ-WR18NA***
Coil MSZ-WR18NA***
AHRI ref 209832270

Efficiency 10.0 EER2, 18 SEER2
Sensible cooling 13760 Btuh
Latent cooling 3440 Btuh
Total cooling 17200 Btuh
Actual air flow 573 cfm
Air flow factor 0.043 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0.89

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Information

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	13231	Btuh	Entering coil DB:	76.6°F
Outdoor design WB:	75.8°F	Latent gain:	1692	Btuh	Entering coil WB:	63.3°F
Indoor design DB:	75.0°F	Total gain:	14923	Btuh		
Indoor RH:	50%	Estimated airflow:	573	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Mitsubishi Electric	Model:	MUZ-WR18NA***+MSZ-WR18NA***		
Actual airflow:	573	cfm			
Sensible capacity:	13760	Btuh	104%	of load	
Latent capacity:	3440	Btuh	203%	of load	
Total capacity:	17200	Btuh	115%	of load SHR: 80%	

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	9487	Btuh	Entering coil DB:	69.0°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Mitsubishi Electric	Model:	MUZ-WR18NA***+MSZ-WR18NA***		
Actual airflow:	573	cfm			
Output capacity:	18000	Btuh	190%	of load	
Supplemental heat required:	0	Btuh			
				Capacity balance:	16 °F
				Economic balance:	-99 °F

Backup equipment type:	Elec strip				
Manufacturer:		Model:			
Actual airflow:	573	cfm			
Output capacity:	2.7	kW	98%	Temp. rise:	50 °F

Meets all requirements of ACCA Manual S.