

Air System Sizing Summary for AHU-1 [GREAT ROOM]

Project Name: Montero Residence
Prepared by:

08/24/2022
05:12PM

Air System Information

Air System Name **AHU-1 [GREAT ROOM]**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **1170.0** ft²
Location **Miami IAP, Florida**

Sizing Calculation Information

Calculation Months **Jan to Dec**
Sizing Data **Calculated**

Zone CFM Sizing **Sum of space airflow rates**
Space CFM Sizing **Individual peak space loads**

Central Cooling Coil Sizing Data

Total coil load **1.4** Tons
Total coil load **17.0** MBH
Sensible coil load **16.8** MBH
Coil CFM at Jul 1700 **817** CFM
Max block CFM **817** CFM
Sum of peak zone CFM **817** CFM
Sensible heat ratio **0.988**
CFM/Ton **578.0**
ft²/Ton **827.7**
BTU/(hr·ft²) **14.5**
Water flow @ 10.0 °F rise **N/A**

Load occurs at **Jul 1700**
OA DB / WB **89.9 / 76.7** °F
Entering DB / WB **75.8 / 62.7** °F
Leaving DB / WB **56.8 / 55.5** °F
Coil ADP **54.7** °F
Bypass Factor **0.100**
Resulting RH **48** %
Design supply temp. **55.0** °F
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0.0** °F

Central Heating Coil Sizing Data

Max coil load **12.2** MBH
Coil CFM at Des Htg **817** CFM
Max coil CFM **817** CFM
Water flow @ 20.0 °F drop **N/A**

Load occurs at **Des Htg**
BTU/(hr·ft²) **10.4**
Ent. DB / Lvg DB **69.4 / 83.2** °F

Supply Fan Sizing Data

Actual max CFM **817** CFM
Standard CFM **817** CFM
Actual max CFM/ft² **0.70** CFM/ft²

Fan motor BHP **0.06** BHP
Fan motor kW **0.05** kW
Fan static **0.40** in wg

Outdoor Ventilation Air Data

Design airflow CFM **0** CFM
CFM/ft² **0.00** CFM/ft²

CFM/person **0.00** CFM/person

Air System Sizing Summary for AHU-1A [GUEST HOUSE]

Project Name: Montero Residence
Prepared by:

08/24/2022
05:12PM

Air System Information

Air System Name AHU-1A [GUEST HOUSE]
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 406.0 ft²
Location Miami IAP, Florida

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone CFM Sizing Sum of space airflow rates
Space CFM Sizing Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load 1.0 Tons
Total coil load 11.4 MBH
Sensible coil load 11.2 MBH
Coil CFM at Jul 1700 546 CFM
Max block CFM 546 CFM
Sum of peak zone CFM 546 CFM
Sensible heat ratio 0.982
CFM/Ton 574.6
ft²/Ton 427.3
BTU/(hr·ft²) 28.1
Water flow @ 10.0 °F rise N/A

Load occurs at Jul 1700
OA DB / WB 89.9 / 76.7 °F
Entering DB / WB 75.9 / 62.9 °F
Leaving DB / WB 56.9 / 55.7 °F
Coil ADP 54.8 °F
Bypass Factor 0.100
Resulting RH 48 %
Design supply temp. 55.0 °F
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0.0 °F

Central Heating Coil Sizing Data

Max coil load 10.0 MBH
Coil CFM at Des Htg 546 CFM
Max coil CFM 546 CFM
Water flow @ 20.0 °F drop N/A

Load occurs at Des Htg
BTU/(hr·ft²) 24.5
Ent. DB / Lvg DB 69.3 / 86.2 °F

Supply Fan Sizing Data

Actual max CFM 546 CFM
Standard CFM 546 CFM
Actual max CFM/ft² 1.34 CFM/ft²

Fan motor BHP 0.03 BHP
Fan motor kW 0.02 kW
Fan static 0.30 in wg

Outdoor Ventilation Air Data

Design airflow CFM 0 CFM
CFM/ft² 0.00 CFM/ft²

CFM/person 0.00 CFM/person

Air System Sizing Summary for AHU-2 [2ND MASTER/MUD]

Project Name: Montero Residence
Prepared by:

08/24/2022
05:12PM

Air System Information

Air System Name AHU-2 [2ND MASTER/MUD]
Equipment Class SPLT AHU
Air System Type SZCAV

Number of zones 1
Floor Area 1122.0 ft²
Location Miami IAP, Florida

Sizing Calculation Information

Calculation Months Jan to Dec
Sizing Data Calculated

Zone CFM Sizing Sum of space airflow rates
Space CFM Sizing Individual peak space loads

Central Cooling Coil Sizing Data

Total coil load 1.2 Tons
Total coil load 15.0 MBH
Sensible coil load 14.3 MBH
Coil CFM at Aug 1600 734 CFM
Max block CFM 734 CFM
Sum of peak zone CFM 734 CFM
Sensible heat ratio 0.959
CFM/Ton 589.4
ft²/Ton 900.5
BTU/(hr·ft²) 13.3
Water flow @ 10.0 °F rise N/A

Load occurs at Aug 1600
OA DB / WB 90.7 / 76.9 °F
Entering DB / WB 75.8 / 63.4 °F
Leaving DB / WB 57.7 / 56.5 °F
Coil ADP 55.7 °F
Bypass Factor 0.100
Resulting RH 50 %
Design supply temp. 55.0 °F
Zone T-stat Check 1 of 1 OK
Max zone temperature deviation 0.0 °F

Central Heating Coil Sizing Data

Max coil load 9.9 MBH
Coil CFM at Des Htg 734 CFM
Max coil CFM 734 CFM
Water flow @ 20.0 °F drop N/A

Load occurs at Des Htg
BTU/(hr·ft²) 8.9
Ent. DB / Lvg DB 69.4 / 81.9 °F

Supply Fan Sizing Data

Actual max CFM 734 CFM
Standard CFM 734 CFM
Actual max CFM/ft² 0.65 CFM/ft²

Fan motor BHP 0.05 BHP
Fan motor kW 0.04 kW
Fan static 0.40 in wg

Outdoor Ventilation Air Data

Design airflow CFM 0 CFM
CFM/ft² 0.00 CFM/ft²

CFM/person 0.00 CFM/person

Air System Sizing Summary for AHU-5 [MASTER]

Project Name: Montero Residence
Prepared by:

08/24/2022
05:12PM

Air System Information

Air System Name **AHU-5 [MASTER]**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **1170.0** ft²
Location **Miami IAP, Florida**

Sizing Calculation Information

Calculation Months **Jan to Dec**
Sizing Data **Calculated**

Zone CFM Sizing **Sum of space airflow rates**
Space CFM Sizing **Individual peak space loads**

Central Cooling Coil Sizing Data

Total coil load **1.3** Tons
Total coil load **15.7** MBH
Sensible coil load **15.3** MBH
Coil CFM at Jul 1400 **743** CFM
Max block CFM **743** CFM
Sum of peak zone CFM **743** CFM
Sensible heat ratio **0.974**
CFM/Ton **568.8**
ft²/Ton **895.6**
BTU/(hr·ft²) **13.4**
Water flow @ 10.0 °F rise **N/A**

Load occurs at **Jul 1400**
OA DB / WB **90.7 / 76.9** °F
Entering DB / WB **75.8 / 62.8** °F
Leaving DB / WB **56.8 / 55.5** °F
Coil ADP **54.7** °F
Bypass Factor **0.100**
Resulting RH **48** %
Design supply temp. **55.0** °F
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0.0** °F

Central Heating Coil Sizing Data

Max coil load **10.6** MBH
Coil CFM at Des Htg **743** CFM
Max coil CFM **743** CFM
Water flow @ 20.0 °F drop **N/A**

Load occurs at **Des Htg**
BTU/(hr·ft²) **9.1**
Ent. DB / Lvg DB **69.4 / 82.6** °F

Supply Fan Sizing Data

Actual max CFM **743** CFM
Standard CFM **743** CFM
Actual max CFM/ft² **0.64** CFM/ft²

Fan motor BHP **0.05** BHP
Fan motor kW **0.04** kW
Fan static **0.40** in wg

Outdoor Ventilation Air Data

Design airflow CFM **0** CFM
CFM/ft² **0.00** CFM/ft²

CFM/person **0.00** CFM/person