

Air System Sizing Summary for AHU-1A,1B

Project Name: 2023-0419 Stonebridge (with Cassettes)
Prepared by:

10/04/2023
03:35PM

Air System Information

Air System Name **AHU-1A,1B**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **582.0** 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 **1.8** Tons
Total coil load **21.4** MBH
Sensible coil load **16.1** MBH
Coil CFM at Jul 1000 **649** CFM
Max block CFM **649** CFM
Sum of peak zone CFM **649** CFM
Sensible heat ratio **0.753**
CFM/Ton **364.7**
ft²/Ton **327.0**
BTU/(hr·ft²) **36.7**
Water flow @ 10.0 °F rise **N/A**

Load occurs at **Jul 1000**
OA DB / WB **84.6 / 75.3** °F
Entering DB / WB **77.1 / 64.4** °F
Leaving DB / WB **54.2 / 53.1** °F
Coil ADP **51.6** °F
Bypass Factor **0.100**
Resulting RH **47** %
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 **7.4** MBH
Coil CFM at Des Htg **649** CFM
Max coil CFM **649** CFM
Water flow @ 20.0 °F drop **N/A**

Load occurs at **Des Htg**
BTU/(hr·ft²) **12.8**
Ent. DB / Lvg DB **66.7 / 77.3** °F

Supply Fan Sizing Data

Actual max CFM **649** CFM
Standard CFM **649** CFM
Actual max CFM/ft² **1.12** CFM/ft²

Fan motor BHP **0.11** BHP
Fan motor kW **0.09** kW
Fan static **1.00** in wg

Outdoor Ventilation Air Data

Design airflow CFM **82** CFM
CFM/ft² **0.14** CFM/ft²

CFM/person **8.19** CFM/person

Air System Sizing Summary for AHU-2

Project Name: 2023-0419 Stonebridge (with Cassettes)
Prepared by:

10/04/2023
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Air System Information

Air System Name **AHU-2**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **260.0** 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 **0.8** Tons
Total coil load **10.2** MBH
Sensible coil load **8.7** MBH
Coil CFM at Aug 0900 **362** CFM
Max block CFM **362** CFM
Sum of peak zone CFM **362** CFM
Sensible heat ratio **0.855**
CFM/Ton **426.9**
ft²/Ton **306.5**
BTU/(hr·ft²) **39.2**
Water flow @ 10.0 °F rise **N/A**

Load occurs at **Aug 0900**
OA DB / WB **82.9 / 74.9** °F
Entering DB / WB **76.4 / 62.8** °F
Leaving DB / WB **54.2 / 52.9** °F
Coil ADP **51.7** °F
Bypass Factor **0.100**
Resulting RH **45** %
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 **2.2** MBH
Coil CFM at Des Htg **362** CFM
Max coil CFM **362** CFM
Water flow @ 20.0 °F drop **N/A**

Load occurs at **Des Htg**
BTU/(hr·ft²) **8.4**
Ent. DB / Lvg DB **68.3 / 73.8** °F

Supply Fan Sizing Data

Actual max CFM **362** CFM
Standard CFM **362** CFM
Actual max CFM/ft² **1.39** CFM/ft²

Fan motor BHP **0.06** BHP
Fan motor kW **0.05** kW
Fan static **1.00** in wg

Outdoor Ventilation Air Data

Design airflow CFM **21** CFM
CFM/ft² **0.08** CFM/ft²

CFM/person **20.60** CFM/person

Air System Sizing Summary for AHU-3

Project Name: 2023-0419 Stonebridge (with Cassettes)
Prepared by:

10/04/2023
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Air System Information

Air System Name **AHU-3**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **471.0** 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 **13.9** MBH
Sensible coil load **11.5** MBH
Coil CFM at Aug 1100 **484** CFM
Max block CFM **484** CFM
Sum of peak zone CFM **484** CFM
Sensible heat ratio **0.831**
CFM/Ton **418.3**
ft²/Ton **407.2**
BTU/(hr·ft²) **29.5**
Water flow @ 10.0 °F rise **N/A**

Load occurs at **Aug 1100**
OA DB / WB **86.6 / 75.8** °F
Entering DB / WB **76.7 / 63.4** °F
Leaving DB / WB **54.6 / 53.4** °F
Coil ADP **52.2** °F
Bypass Factor **0.100**
Resulting RH **45** %
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 **4.5** MBH
Coil CFM at Des Htg **484** CFM
Max coil CFM **484** CFM
Water flow @ 20.0 °F drop **N/A**

Load occurs at **Des Htg**
BTU/(hr·ft²) **9.7**
Ent. DB / Lvg DB **67.4 / 76.1** °F

Supply Fan Sizing Data

Actual max CFM **484** CFM
Standard CFM **484** CFM
Actual max CFM/ft² **1.03** CFM/ft²

Fan motor BHP **0.08** BHP
Fan motor kW **0.07** kW
Fan static **1.00** in wg

Outdoor Ventilation Air Data

Design airflow CFM **43** CFM
CFM/ft² **0.09** CFM/ft²

CFM/person **14.42** CFM/person

Air System Sizing Summary for AHU-4

Project Name: 2023-0419 Stonebridge (with Cassettes)
Prepared by:

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Air System Information

Air System Name **AHU-4**
Equipment Class **SPLT AHU**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **248.0** 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 **0.6** Tons
Total coil load **7.3** MBH
Sensible coil load **6.3** MBH
Coil CFM at Aug 1600 **263** CFM
Max block CFM **263** CFM
Sum of peak zone CFM **263** CFM
Sensible heat ratio **0.863**
CFM/Ton **434.5**
ft²/Ton **410.1**
BTU/(hr·ft²) **29.3**
Water flow @ 10.0 °F rise **N/A**

Load occurs at **Aug 1600**
OA DB / WB **90.7 / 76.9** °F
Entering DB / WB **77.0 / 63.3** °F
Leaving DB / WB **54.9 / 53.6** °F
Coil ADP **52.5** °F
Bypass Factor **0.100**
Resulting RH **45** %
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 **2.0** MBH
Coil CFM at Des Htg **263** CFM
Max coil CFM **263** CFM
Water flow @ 20.0 °F drop **N/A**

Load occurs at **Des Htg**
BTU/(hr·ft²) **8.0**
Ent. DB / Lvg DB **68.1 / 75.1** °F

Supply Fan Sizing Data

Actual max CFM **263** CFM
Standard CFM **263** CFM
Actual max CFM/ft² **1.06** CFM/ft²

Fan motor BHP **0.05** BHP
Fan motor kW **0.04** kW
Fan static **1.00** in wg

Outdoor Ventilation Air Data

Design airflow CFM **20** CFM
CFM/ft² **0.08** CFM/ft²

CFM/person **19.88** CFM/person

Air System Sizing Summary for OAHU-1

Project Name: 2023-0419 Stonebridge (with Cassettes)
Prepared by:

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Air System Information

Air System Name **OAHU-1**
Equipment Class **PKG ROOF**
Air System Type **SZCAV**

Number of zones **1**
Floor Area **598.0** ft²
Location **Miami IAP, Florida**

Sizing Calculation Information

Calculation Months **Jan to Dec**
Sizing Data **User-Modified**

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

Central Cooling Coil Sizing Data

Total coil load **4.0** Tons
Total coil load **48.3** MBH
Sensible coil load **24.1** MBH
Coil CFM at Jul 1500 **545** CFM
Max block CFM **759** CFM
Sum of peak zone CFM **545** CFM
Sensible heat ratio **0.500**
CFM/Ton **135.5**
ft²/Ton **148.6**
BTU/(hr·ft²) **80.7**
Water flow @ 10.0 °F rise **N/A**

Load occurs at **Jul 1500**
OA DB / WB **91.0 / 77.0** °F
Entering DB / WB **91.0 / 77.0** °F
Leaving DB / WB **50.0 / 49.6** °F
Coil ADP **45.4** °F
Bypass Factor **0.100**
Resulting RH **56** %
Design supply temp. **49.8** °F
Zone T-stat Check **1 of 1** OK
Max zone temperature deviation **0.0** °F

Central Heating Coil Sizing Data

Max coil load **17.4** MBH
Coil CFM at Des Htg **545** CFM
Max coil CFM **759** CFM
Water flow @ 20.0 °F drop **N/A**

Load occurs at **Des Htg**
BTU/(hr·ft²) **29.1**
Ent. DB / Lvg DB **46.0 / 75.6** °F

Supply Fan Sizing Data

Actual max CFM **759** CFM
Standard CFM **759** CFM
Actual max CFM/ft² **1.27** CFM/ft²

Fan motor BHP **0.13** BHP
Fan motor kW **0.10** kW
Fan static **1.00** in wg

Outdoor Ventilation Air Data

Design airflow CFM **552** CFM
CFM/ft² **0.92** CFM/ft²

CFM/person **0.00** CFM/person