Air System Sizing Summary for AHU-1

Project Name: 2024-085 Bhagwansingh House
Prepared by: Designer

11/23/2024
09:19PM

Air System Information

Air System Name	**AHU-1**		Number of zones	**1**	
Equipment Class	**SPLT AHU**		Floor Area	**1870.0**	ft²
Air System Type	**SZCAV**		Location	**Miami IAP, Florida**	

Sizing Calculation Information

Calculation Months	**Jan to Dec**		Zone CFM Sizing	**Sum of space airflow rates**	
Sizing Data	**Calculated**		Space CFM Sizing	**Individual peak space loads**	

Central Cooling Coil Sizing Data

Total coil load	**4.2**	Tons	Load occurs at	**Aug 1600**	
Total coil load	**50.7**	MBH	OA DB / WB	**90.7 / 76.9**	°F
Sensible coil load	**43.0**	MBH	Entering DB / WB	**76.1 / 63.6**	°F
Coil CFM at Aug 1600	**1979**	CFM	Leaving DB / WB	**56.0 / 54.9**	°F
Max block CFM	**1979**	CFM	Coil ADP	**53.8**	°F
Sum of peak zone CFM	**1979**	CFM	Bypass Factor	**0.100**	
Sensible heat ratio	**0.847**		Resulting RH	**50**	%
CFM/Ton	**468.2**		Design supply temp.	**55.0**	°F
ft²/Ton	**442.3**		Zone T-stat Check	**1 of 1**	OK
BTU/(hr·ft²)	**27.1**		Max zone temperature deviation	**0.0**	°F
Water flow @ 10.0 °F rise	**N/A**				

Central Heating Coil Sizing Data

Max coil load	**13.9**	MBH	Load occurs at	**Des Htg**	
Coil CFM at Des Htg	**1979**	CFM	BTU/(hr·ft²)	**7.4**	
Max coil CFM	**1979**	CFM	Ent. DB / Lvg DB	**69.5 / 76.0**	°F
Water flow @ 20.0 °F drop	**N/A**				

Supply Fan Sizing Data

Actual max CFM	**1979**	CFM	Fan motor BHP	**n/a**	
Standard CFM	**1978**	CFM	Fan motor kW	**1.65**	kW
Actual max CFM/ft²	**1.06**	CFM/ft²			

Outdoor Ventilation Air Data

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

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Air System Sizing Summary for AHU-2

Project Name: 2024-085 Bhagwansingh House — 11/23/2024
Prepared by: Designer — 09:19PM

Air System Information

Air System Name	**AHU-2**		Number of zones	**1**
Equipment Class	**SPLT AHU**		Floor Area	**1770.0** ft²
Air System Type	**SZCAV**		Location	**Miami IAP, Florida**

Sizing Calculation Information

Calculation Months	**Jan to Dec**	Zone CFM Sizing	**Sum of space airflow rates**
Sizing Data	**Calculated**	Space CFM Sizing	**Individual peak space loads**

Central Cooling Coil Sizing Data

Total coil load	**3.7**	Tons	Load occurs at	**Oct 1300**	
Total coil load	**45.0**	MBH	OA DB / WB	**85.7 / 74.7**	°F
Sensible coil load	**36.3**	MBH	Entering DB / WB	**76.1 / 64.2**	°F
Coil CFM at Oct 1300	**1690**	CFM	Leaving DB / WB	**56.2 / 55.1**	°F
Max block CFM	**1690**	CFM	Coil ADP	**54.0**	°F
Sum of peak zone CFM	**1690**	CFM	Bypass Factor	**0.100**	
Sensible heat ratio	**0.807**		Resulting RH	**52**	%
CFM/Ton	**451.0**		Design supply temp.	**55.0**	°F
ft²/Ton	**472.4**		Zone T-stat Check	**1 of 1**	OK
BTU/(hr·ft²)	**25.4**		Max zone temperature deviation	**0.0**	°F
Water flow @ 10.0 °F rise	**N/A**				

Central Heating Coil Sizing Data

Max coil load	**6.3**	MBH	Load occurs at	**Des Htg**	
Coil CFM at Des Htg	**1690**	CFM	BTU/(hr·ft²)	**3.5**	
Max coil CFM	**1690**	CFM	Ent. DB / Lvg DB	**69.6 / 73.1**	°F
Water flow @ 20.0 °F drop	**N/A**				

Supply Fan Sizing Data

Actual max CFM	**1690**	CFM	Fan motor BHP	**n/a**	
Standard CFM	**1689**	CFM	Fan motor kW	**1.41**	kW
Actual max CFM/ft²	**0.95**	CFM/ft²			

Outdoor Ventilation Air Data

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

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Air System Sizing Summary for AHU-3

Project Name: 2024-085 Bhagwansingh House — 11/23/2024
Prepared by: Designer — 09:19PM

Air System Information

Air System Name	**AHU-3**		Number of zones	**1**
Equipment Class	**SPLT AHU**		Floor Area	**1200.0** ft²
Air System Type	**SZCAV**		Location	**Miami IAP, Florida**

Sizing Calculation Information

Calculation Months	**Jan to Dec**	Zone CFM Sizing	**Sum of space airflow rates**
Sizing Data	**Calculated**	Space CFM Sizing	**Individual peak space loads**

Central Cooling Coil Sizing Data

Total coil load	**2.5**	Tons	Load occurs at	**Sep 1500**	
Total coil load	**29.7**	MBH	OA DB / WB	**89.0 / 76.0**	°F
Sensible coil load	**27.2**	MBH	Entering DB / WB	**76.2 / 63.4**	°F
Coil CFM at Sep 1500	**1301**	CFM	Leaving DB / WB	**56.8 / 55.6**	°F
Max block CFM	**1301**	CFM	Coil ADP	**54.6**	°F
Sum of peak zone CFM	**1301**	CFM	Bypass Factor	**0.100**	
Sensible heat ratio	**0.916**		Resulting RH	**49**	%
CFM/Ton	**525.7**		Design supply temp.	**55.0**	°F
ft²/Ton	**484.9**		Zone T-stat Check	**1 of 1**	OK
BTU/(hr·ft²)	**24.7**		Max zone temperature deviation	**0.0**	°F
Water flow @ 10.0 °F rise	**N/A**				

Central Heating Coil Sizing Data

Max coil load	**9.4**	MBH	Load occurs at	**Des Htg**	
Coil CFM at Des Htg	**1301**	CFM	BTU/(hr·ft²)	**7.8**	
Max coil CFM	**1301**	CFM	Ent. DB / Lvg DB	**69.4 / 76.0**	°F
Water flow @ 20.0 °F drop	**N/A**				

Supply Fan Sizing Data

Actual max CFM	**1301**	CFM	Fan motor BHP	**n/a**	
Standard CFM	**1300**	CFM	Fan motor kW	**1.09**	kW
Actual max CFM/ft²	**1.08**	CFM/ft²			

Outdoor Ventilation Air Data

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

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Air System Sizing Summary for AHU-EAST

Project Name: 2024-085 Bhagwansingh House
Prepared by: Designer

11/23/2024
09:19PM

Air System Information

Air System Name	**AHU-EAST**		Number of zones	**1**
Equipment Class	**SPLT AHU**		Floor Area	**1265.0** ft²
Air System Type	**SZCAV**		Location	**Miami IAP, Florida**

Sizing Calculation Information

Calculation Months	**Jan to Dec**	Zone CFM Sizing	**Sum of space airflow rates**
Sizing Data	**Calculated**	Space CFM Sizing	**Individual peak space loads**

Central Cooling Coil Sizing Data

Total coil load	**2.0**	Tons	Load occurs at	**Jul 1300**	
Total coil load	**23.8**	MBH	OA DB / WB	**89.7 / 76.7**	°F
Sensible coil load	**17.5**	MBH	Entering DB / WB	**76.1 / 64.6**	°F
Coil CFM at Jul 1300	**769**	CFM	Leaving DB / WB	**55.0 / 54.0**	°F
Max block CFM	**769**	CFM	Coil ADP	**52.7**	°F
Sum of peak zone CFM	**769**	CFM	Bypass Factor	**0.100**	
Sensible heat ratio	**0.736**		Resulting RH	**53**	%
CFM/Ton	**388.1**		Design supply temp.	**55.0**	°F
ft²/Ton	**638.7**		Zone T-stat Check	**1 of 1**	OK
BTU/(hr·ft²)	**18.8**		Max zone temperature deviation	**0.0**	°F
Water flow @ 10.0 °F rise	**N/A**				

Central Heating Coil Sizing Data

Max coil load	**5.6**	MBH	Load occurs at	**Des Htg**	
Coil CFM at Des Htg	**769**	CFM	BTU/(hr·ft²)	**4.5**	
Max coil CFM	**769**	CFM	Ent. DB / Lvg DB	**69.4 / 76.2**	°F
Water flow @ 20.0 °F drop	**N/A**				

Supply Fan Sizing Data

Actual max CFM	**769**	CFM	Fan motor BHP	**n/a**	
Standard CFM	**768**	CFM	Fan motor kW	**0.65**	kW
Actual max CFM/ft²	**0.61**	CFM/ft²			

Outdoor Ventilation Air Data

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

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Air System Sizing Summary for AHU-WEST

Project Name: 2024-085 Bhagwansingh House
Prepared by: Designer

11/23/2024
09:19PM

Air System Information

Air System Name	**AHU-WEST**	Number of zones	**1**
Equipment Class	**SPLT AHU**	Floor Area	**1285.0** ft²
Air System Type	**SZCAV**	Location	**Miami IAP, Florida**

Sizing Calculation Information

Calculation Months	**Jan to Dec**	Zone CFM Sizing	**Sum of space airflow rates**
Sizing Data	**Calculated**	Space CFM Sizing	**Individual peak space loads**

Central Cooling Coil Sizing Data

Total coil load	**2.0**	Tons	Load occurs at	**Aug 1300**	
Total coil load	**23.7**	MBH	OA DB / WB	**89.7 / 76.7**	°F
Sensible coil load	**17.4**	MBH	Entering DB / WB	**76.2 / 64.7**	°F
Coil CFM at Aug 1300	**769**	CFM	Leaving DB / WB	**55.1 / 54.1**	°F
Max block CFM	**769**	CFM	Coil ADP	**52.8**	°F
Sum of peak zone CFM	**769**	CFM	Bypass Factor	**0.100**	
Sensible heat ratio	**0.735**		Resulting RH	**54**	%
CFM/Ton	**389.1**		Design supply temp.	**55.0**	°F
ft²/Ton	**650.6**		Zone T-stat Check	**1 of 1**	OK
BTU/(hr·ft²)	**18.4**		Max zone temperature deviation	**0.0**	°F
Water flow @ 10.0 °F rise	**N/A**				

Central Heating Coil Sizing Data

Max coil load	**5.8**	MBH	Load occurs at	**Des Htg**	
Coil CFM at Des Htg	**769**	CFM	BTU/(hr·ft²)	**4.5**	
Max coil CFM	**769**	CFM	Ent. DB / Lvg DB	**69.5 / 76.5**	°F
Water flow @ 20.0 °F drop	**N/A**				

Supply Fan Sizing Data

Actual max CFM	**769**	CFM	Fan motor BHP	**n/a**	
Standard CFM	**768**	CFM	Fan motor kW	**0.65**	kW
Actual max CFM/ft²	**0.60**	CFM/ft²			

Outdoor Ventilation Air Data

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

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