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
Prepared by: Designer

11/23/2024
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 — 11/23/2024
Prepared by: Designer — 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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