

Zone Sizing Summary for Packaged Rooftop AHU

Project Name: Example Problem
Prepared by: Carrier Corporation

08/27/2002
03:22PM

Sizing Calculation Information

Zone and Space Sizing Method:

Zone CFM **Peak zone sensible load**
Space CFM **Individual peak space loads**

Calculation Months **May to Nov**
Sizing Data **Calculated**

Zone Sizing Data

Zone Name	Maximum Cooling Sensible (MBH)	Design Air Flow (CFM)	Minimum Air Flow (CFM)	Time of Peak Load	Maximum Heating Load (MBH)	Zone Floor Area (ft²)	Zone CFM/ft²
D101 - Classroom	16.9	842	375	Jun 1600	12.5	907.5	0.93
D102 - Classroom	16.9	842	375	Jun 1600	12.5	907.5	0.93
D103 - Classroom	16.9	842	375	Jun 1600	12.5	907.5	0.93
D104 - Classroom	17.2	859	375	Aug 1600	16.1	907.5	0.95
D106 - Classroom	19.8	988	375	Aug 1700	17.3	907.5	1.09
D107 - Classroom	19.1	952	375	Aug 1700	12.5	907.5	1.05
D108-111 Music Room	34.4	1718	780	Aug 1700	23.6	2140.0	0.80
D113 - West Corridor	9.1	455	53	Jun 1600	5.5	1054.0	0.43
D114 - South Corridor	8.0	397	46	Jun 1600	4.8	920.0	0.43
D105 - South Vestibule	6.8	341	4	Sep 1400	9.7	73.0	4.67
D112 - West Vestibule	7.0	351	4	Jun 1700	9.5	68.0	5.16

Zone Terminal Sizing Data

Zone Name	Reheat Coil Load (MBH)	Reheat Coil Water gpm @ 20.0 °F	Zone Htg Coil Load (MBH)	Zone Htg Water gpm @ 20.0 °F	Mixing Box Fan Airflow (CFM)
D101 - Classroom	19.2	-	0.0	0.00	236
D102 - Classroom	19.2	-	0.0	0.00	236
D103 - Classroom	19.2	-	0.0	0.00	236
D104 - Classroom	22.9	-	0.0	0.00	306
D106 - Classroom	24.0	-	0.0	0.00	328
D107 - Classroom	19.2	-	0.0	0.00	236
D108-111 Music Room	37.6	-	0.0	0.00	447
D113 - West Corridor	6.4	-	0.0	0.00	104
D114 - South Corridor	5.6	-	0.0	0.00	91
D105 - South Vestibule	9.8	-	0.0	0.00	185
D112 - West Vestibule	9.6	-	0.0	0.00	180

Space Loads and Airflows

Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft²)	Space CFM/ft²
D101 - Classroom							
D101 - Typical Classroom	1	16.9	Jun 1600	842	12.5	907.5	0.93
D102 - Classroom							
D101 - Typical Classroom	1	16.9	Jun 1600	842	12.5	907.5	0.93
D103 - Classroom							
D101 - Typical Classroom	1	16.9	Jun 1600	842	12.5	907.5	0.93
D104 - Classroom							
D104 - Classroom	1	17.2	Aug 1600	859	16.1	907.5	0.95
D106 - Classroom							
D106 - Classroom	1	19.8	Aug 1700	988	17.3	907.5	1.09
D107 - Classroom							
D107 - Classroom	1	19.1	Aug 1700	952	12.5	907.5	1.05
D108-111 Music Room							

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Zone Name / Space Name	Mult.	Cooling Sensible (MBH)	Time of Load	Air Flow (CFM)	Heating Load (MBH)	Floor Area (ft ²)	Space CFM/ft ²
D108 - Music Room	1	28.8	Sep 1500	1438	15.7	1781.0	0.81
D109 - Practice Room	1	1.0	Aug 1700	49	2.0	65.0	0.76
D110 - Storage Room	1	1.1	Jun 1700	57	2.0	120.0	0.47
D111 - Office	1	3.9	Aug 1700	195	3.8	174.0	1.12
<i>D113 - West Corridor</i>							
D113 - West Corridor	1	9.1	Jun 1600	455	5.5	1054.0	0.43
<i>D114 - South Corridor</i>							
D114 - South Corridor	1	8.0	Jun 1600	397	4.8	920.0	0.43
<i>D105 - South Vestibule</i>							
D105 - South Vestibule	1	6.8	Sep 1400	341	9.7	73.0	4.67
<i>D112 - West Vestibule</i>							
D112 - West Vestibule	1	7.0	Jun 1700	351	9.5	68.0	5.16