

Supply Air Requirements

Location	Current Supply CFM	Required Supply CFM	Cooling						Heating				
			Peak	Supply Temperature	Load (btuh)	Supply CFM	OSA CFM	OSA %	Heating Temperature Difference	Load (btuh)	Supply CFM	OSA CFM	OSA %
Zone 01	0	1,730	July 3:00 p.m.		21,300	1,730	229	13%		2,810	1,730	229	13%
Room Administration	0	1,250	July 3:00 p.m.		13,800	1,250	84	7%		1,680	1,250	84	7%
Room Conference 1	0	150	July 3:00 p.m.		3,730	150	51	34%		306	150	51	34%
Room Office 01	0	150	July 3:00 p.m.		1,890	150	12	8%		255	150	12	8%
Room Office 03	0	175	July 3:00 p.m.		1,940	175	27	15%		561	175	27	15%
Zone 02	0	550	July 3:00 p.m.		6,250	550	67	12%		1,580	550	67	12%
Room Lobby	0	400	July 3:00 p.m.		3,810	400	32	8%		918	400	32	8%
Room Office 02	0	100	July 3:00 p.m.		1,430	100	20	20%		408	100	20	20%
Room Vestibule	0	50	July 3:00 p.m.		1,010	50	9	18%		255	50	9	18%
Zone 03	0	2,930	July 3:00 p.m.		29,800	2,930	344	12%		3,880	2,930	344	12%
Room Conference 2	0	250	July 3:00 p.m.		4,440	250	53	21%		306	250	53	21%
Room Foyer	0	1,800	July 3:00 p.m.		7,990	1,800	71	4%		1,990	1,800	71	4%
Room Kitchen	0	125	July 3:00 p.m.		12,800	125	50	40%		306	125	50	40%
Room Team Area 1	0	150	July 3:00 p.m.		1,090	150	16	11%		306	150	16	11%
Room Team Area 2	0	100	July 3:00 p.m.		737	100	11	11%		204	100	11	11%
Room Team Area 3	0	100	July 3:00 p.m.		746	100	4	4%		204	100	4	4%
Room Team Area 4	0	250	July 3:00 p.m.		1,130	250	16	6%		306	250	16	6%
Room Team Area 5	0	150	July 3:00 p.m.		925	150	13	9%		255	150	13	9%
Zone 04	0	900	July 3:00 p.m.		18,400	900	181	20%		1,020	900	181	20%
Room Crew Room 1	0	900	July 3:00 p.m.		18,400	900	181	20%		1,020	900	181	20%
Zone 05	0	1,600	July 3:00 p.m.		38,200	1,600	447	28%		2,450	1,600	447	28%
Room Forum 1	0	1,600	July 3:00 p.m.		38,200	1,600	447	28%		2,450	1,600	447	28%

Ventilation Schedule

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Zone 01

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System Primary Airflow: V_{ps}	1,730 CFM	Zone Air Distribution Effectiveness: E_z	1
Average Outdoor Air Fraction: X_s	0.101	Primary Air Fraction to Zone: E_p	1
Occupant Diversity: D	1	Secondary Air Fraction to Zone: E_r	1
Uncorrected Air Intake: V_{ou}	174 CFM	Fraction of Supply Air to Zone from Outside Zone: F_a	1
System Ventilation Efficiency: E_v	0.761	Fraction of Supply Air to Zone from Fully Mixed Primary Air: F_b	1
Outdoor Air Intake: V_{ot}	229 CFM 0.133	Fraction of Outdoor Air to Zone from Outside Zone: F_c	1

Room Information

Room	Room Type	People Outdoor Air			Area Outdoor Air			Breathing Zone Outside Airflow (CFM) V_{bz}	Zone Outdoor Airflow (CFM) V_{oz}	Zone Discharge Airflow (CFM) V_{dz}	Discharge Outdoor Air Fraction Z_d	Zone Ventilation Efficiency E_{vz}
		Rate (CFM/person) R_p	People P_z	Total (CFM) $R_p * P_z$	Rate (CFM/person) R_a	Area (ft ²) A_z	Total (CFM) $R_a * A_z$					
Administration Office		5	4.9	25	0.06	974	59	84	84	1,250	0.0672	1.03
Conference 1	Conference	5	8.1	41	0.06	161	10	51	51	150	0.34	0.761
Office 01	Office	5	0.7	4	0.06	133	8	12	12	150	0.08	1.02
Office 03	Office	5	1.5	8	0.06	306	19	27	27	175	0.154	0.947

Zone 02

System Primary Airflow: V_{ps}	550 CFM	Zone Air Distribution Effectiveness: E_z	1
Average Outdoor Air Fraction: X_s	0.111	Primary Air Fraction to Zone: E_p	1
Occupant Diversity: D	1	Secondary Air Fraction to Zone: E_r	1
Uncorrected Air Intake: V_{ou}	61 CFM	Fraction of Supply Air to Zone from Outside Zone: F_a	1
System Ventilation Efficiency: E_v	0.911	Fraction of Supply Air to Zone from Fully Mixed Primary Air: F_b	1
Outdoor Air Intake: V_{ot}	67 CFM 0.122	Fraction of Outdoor Air to Zone from Outside Zone: F_c	1

Room Information

Room	Room Type	People Outdoor Air			Area Outdoor Air			Breathing Zone Outside Airflow (CFM) V_{bz}	Zone Outdoor Airflow (CFM) V_{oz}	Zone Discharge Airflow (CFM) V_{dz}	Discharge Outdoor Air Fraction Z_d	Zone Ventilation Efficiency E_{vz}
		Rate (CFM/person) R_p	People P_z	Total (CFM) $R_p * P_z$	Rate (CFM/person) R_a	Area (ft ²) A_z	Total (CFM) $R_a * A_z$					
Lobby	Corridors	0	5.3	0	0.06	530	32	32	32	400	0.08	1.03
Office 02	Office	5	1.1	6	0.06	226	14	20	20	100	0.2	0.911
Vestibule	Corridors	0	1.5	0	0.06	147	9	9	9	50	0.18	0.931

Zone 03

System Primary Airflow: V_{ps}	2,930 CFM	Zone Air Distribution Effectiveness: E_z	1
Average Outdoor Air Fraction: X_s	0.08	Primary Air Fraction to Zone: E_p	1

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Occupant Diversity: D	1	Secondary Air Fraction to Zone: E_r	1
Uncorrected Air Intake: V_{ou}	234 CFM	Fraction of Supply Air to Zone from Outside Zone: F_a	1
System Ventilation Efficiency: E_v	0.68	Fraction of Supply Air to Zone from Fully Mixed Primary Air: F_b	1
Outdoor Air Intake: V_{ot}	344 CFM 0.118	Fraction of Outdoor Air to Zone from Outside Zone: F_c	1

Room Information

Room	Room Type	People Outdoor Air			Area Outdoor Air			Breathing Zone Outside Airflow (CFM) V_{bz}	Zone Outdoor Airflow (CFM) V_{oz}	Zone Discharge Airflow (CFM) V_{dz}	Discharge Outdoor Air Fraction Z_d	Zone Ventilation Efficiency E_{vz}
		Rate (CFM/person) R_p	People P_z	Total (CFM) $R_p * P_z$	Rate (CFM/person) R_a	Area (ft ²) A_z	Total (CFM) $R_a * A_z$					
Conference 2	Conference	5	8.4	42	0.06	167	11	53	53	250	0.212	0.868
Foyer	Corridors	0	11.7	0	0.06	1,170	71	71	71	1,800	0.0394	1.04
Kitchen	Kitchen	15	3.3	50				50	50	125	0.4	0.68
Team Area 1	Office	5	0.9	5	0.06	172	11	16	16	150	0.107	0.973
Team Area 2	Office	5	0.6	3	0.06	117	8	11	11	100	0.11	0.97
Team Area 3	Office	5	0.6	3				4	4	100	0.04	1.04
Team Area 4	Office	5	0.9	5	0.06	179	11	16	16	250	0.064	1.02
Team Area 5	Office	5	0.7	4	0.06	146	9	13	13	150	0.0867	0.993

Zone 04

System Primary Airflow: V_{ps}	900 CFM	Zone Air Distribution Effectiveness: E_z	1
Average Outdoor Air Fraction: X_s	0.201	Primary Air Fraction to Zone: E_p	1
Occupant Diversity: D	1	Secondary Air Fraction to Zone: E_r	1
Uncorrected Air Intake: V_{ou}	181 CFM	Fraction of Supply Air to Zone from Outside Zone: F_a	1
System Ventilation Efficiency: E_v	1	Fraction of Supply Air to Zone from Fully Mixed Primary Air: F_b	1
Outdoor Air Intake: V_{ot}	181 CFM 0.201	Fraction of Outdoor Air to Zone from Outside Zone: F_c	1

Room Information

Room	Room Type	People Outdoor Air			Area Outdoor Air			Breathing Zone Outside Airflow (CFM) V_{bz}	Zone Outdoor Airflow (CFM) V_{oz}	Zone Discharge Airflow (CFM) V_{dz}	Discharge Outdoor Air Fraction Z_d	Zone Ventilation Efficiency E_{vz}
		Rate (CFM/person) R_p	People P_z	Total (CFM) $R_p * P_z$	Rate (CFM/person) R_a	Area (ft ²) A_z	Total (CFM) $R_a * A_z$					
Crew Room 1	Conference	5	29.1	146	0.06	581	35	181	181	900	0.201	1

Zone 05

System Primary Airflow: V_{ps}	1,600 CFM	Zone Air Distribution Effectiveness: E_z	1
Average Outdoor Air Fraction: X_s	0.279	Primary Air Fraction to Zone: E_p	1
Occupant Diversity: D	1	Secondary Air Fraction to Zone: E_r	1

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Uncorrected Air Intake: <i>V_{ou}</i>	447 CFM	Fraction of Supply Air to Zone from Outside Zone: <i>F_a</i>	1
System Ventilation Efficiency: <i>E_v</i>	1	Fraction of Supply Air to Zone from Fully Mixed Primary Air: <i>F_b</i>	1
Outdoor Air Intake: <i>V_{ot}</i>	447 CFM 0.279	Fraction of Outdoor Air to Zone from Outside Zone: <i>F_c</i>	1

Room Information

Room	Room Type	People Outdoor Air			Area Outdoor Air			Breathing Zone Outside Airflow (CFM) <i>V_{bz}</i>	Zone Outdoor Airflow (CFM) <i>V_{oz}</i>	Zone Discharge Airflow (CFM) <i>V_{dz}</i>	Discharge Outdoor Air Fraction <i>Z_d</i>	Zone Ventilation Efficiency <i>E_{vz}</i>
		Rate (CFM/person) <i>R_p</i>	People <i>P_z</i>	Total (CFM) <i>R_p*P_z</i>	Rate (CFM/person) <i>R_a</i>	Area (ft ²) <i>A_z</i>	Total (CFM) <i>R_a*A_z</i>					
Forum 1	Conference	5	72	360	0.06	1,440	87	447	447	1,600	0.279	1