

Ventilation Sizing Summary for OA Calcs Under Floor

Project Name: 170358 - UNUM
Prepared by: BVA

08/17/2017
08/15/2017

1. Summary
Ventilation Sizing Method: ASHRAE 62.1-2019
Design Condition: Minimum Flow/cooling
Occupied Density (D): 1.000 CFM
Unoccupied Density (U): 0.100 CFM
System Ventilation Efficiency (E_v): 0.765
Outdoor Air Intake (OA): 2438 CFM

2. Space Ventilation Analysis

Zone Name / Space Name	Multi	Minimum Supply Air (CFM)	Space Floor Area (SF)	Area Outdoor Air Rate (CFM/SF)	Time Averaged Occupancy (PPH)	People Outdoor Air Rate (CFM/Person)	Air Distribution Effectiveness (E _a)	Space Outdoor Air (CFM)	Breakdown Zone Outdoor Air (CFM)	Space Ventilation Efficiency (E _v)
EXT Floor 1										
1.W EXT NEIGH ROOM 1010	1	230	117.0	0.66	4.0	5.00	1.00	27	27	1.045
1.W EXT NEIGH ROOM 1019	1	230	118.0	0.66	4.0	5.00	1.00	27	27	1.045
1.W EXT NEIGH ROOM 1020	1	230	118.0	0.66	4.0	5.00	1.00	27	27	1.045
1.W EXT NEIGH ROOM 1021	1	215	110.0	0.68	4.0	5.00	1.00	27	27	1.030
1.W EXT OPEN COL 1018 SE	1	170	85.0	0.66	1.0	5.00	1.00	9	9	1.110
1.W EXT OPEN COL 1018 SW	1	170	85.0	0.66	1.0	5.00	1.00	9	9	1.110
1.W EXT OPEN COL 1017	1	243	138.0	0.66	5.0	5.00	1.00	33	33	1.026
1.W EXT OPEN COL 1022	1	244	139.0	0.66	5.0	5.00	1.00	33	33	1.030
1.W EXT OPEN COL 1023 NW	1	170	79.0	0.66	3.0	5.00	1.00	19	19	1.050
1.W EXT OPEN COL 1023 SW	1	212	111.0	0.66	3.0	5.00	1.00	19	19	1.072
1.W EXT OPEN OFF 1035	1	1342	1253.0	0.66	4.0	5.00	1.00	85	85	1.092
EXT Floor 2										
2.W EXT EXIST 2022 NW	1	390	317.0	0.66	0.0	5.00	1.00	19	19	1.114
2.W EXT EXIST 2022 SW	1	452	376.0	0.66	1.0	5.00	1.00	17	17	1.126
2.W EXT NEIGH ROOM 2018	1	231	117.0	0.66	4.0	5.00	1.00	27	27	1.045
2.W EXT NEIGH ROOM 2019	1	231	117.0	0.66	4.0	5.00	1.00	27	27	1.045
2.W EXT NEIGH ROOM 2020	1	231	117.0	0.66	4.0	5.00	1.00	27	27	1.045
2.W EXT NEIGH ROOM 2021	1	231	117.0	0.66	4.0	5.00	1.00	27	27	1.045
2.W EXT OPEN COL 2017	1	220	127.0	0.66	5.0	5.00	1.00	33	33	1.020
2.W EXT OPEN COL 2017 SE	1	184	33.0	0.66	1.0	5.00	1.00	7	7	1.120
2.W EXT OPEN COL 2017 SW	1	181	32.0	0.66	1.0	5.00	1.00	7	7	1.094
2.W EXT OPEN OFF 2022 NE	1	300	187.0	0.66	1.0	5.00	1.00	16	16	1.112
2.W EXT OPEN OFF 2023 NW	1	978	880.0	0.66	3.0	5.00	1.00	56	56	1.067
INT Floor 1										
1.W INT OPEN OFF 1024	1	1359	2303.0	0.66	5.0	5.00	1.00	386	386	0.977
1.W INT OPEN OFF 1025	1	1719	3383.0	0.66	43.0	5.00	1.00	419	419	0.920
INT Floor 2										
2.W INT EXIST 2022	1	58	353.0	0.66	0.0	5.00	1.00	21	21	0.785
2.W INT EXIST 2023	1	1152	1002.0	0.66	1.0	5.00	1.00	264	264	0.964
2.W INT OPEN OFF 2024	1	1792	1600.0	0.66	43.0	5.00	1.00	419	419	0.920

UNDERFLOOR AIR OUTSIDE AIR TABLE
M1.004 NO SCALE

Ventilation Sizing Summary for OA Calcs SW Side

Project Name: 170358 - UNUM
Prepared by: BVA

08/17/2017
08/15/2017

1. Summary
Ventilation Sizing Method: ASHRAE 62.1-2019
Design Condition: Minimum Flow/cooling
Occupied Density (D): 1.000 CFM
Unoccupied Density (U): 0.100 CFM
System Ventilation Efficiency (E_v): 0.765
Outdoor Air Intake (OA): 2438 CFM

2. Space Ventilation Analysis

Zone Name / Space Name	Multi	Minimum Supply Air (CFM)	Space Floor Area (SF)	Area Outdoor Air Rate (CFM/SF)	Time Averaged Occupancy (PPH)	People Outdoor Air Rate (CFM/Person)	Air Distribution Effectiveness (E _a)	Space Outdoor Air (CFM)	Breakdown Zone Outdoor Air (CFM)	Space Ventilation Efficiency (E _v)
EXT Floor 1										
1.W EXT EXIST WEST 1045	1	650	195.0	0.66	0.0	5.00	1.00	12	12	1.220
1.W EXT FOCUS 016	1	130	44.0	0.66	1.0	5.00	1.00	6	6	1.050
1.W EXT FOCUS 1026	1	40	59.0	0.66	2.0	5.00	1.00	14	14	1.060
1.W EXT MINI TWIN SQR 1037	1	230	426.0	0.66	2.0	5.00	1.00	8	8	1.080
1.W EXT OPEN OFF 1030	1	513	1253.0	0.66	4.0	5.00	1.00	85	85	1.220
1.W EXT PRINT/COMP 1035	1	81	194.0	0.66	0.0	5.00	1.00	12	12	1.202
EXT Floor 2										
2.W EXT FOCUS 2026	1	40	59.0	0.66	2.0	5.00	1.00	14	14	1.067
2.W EXT FOCUS 2048	1	48	56.0	0.66	2.0	5.00	1.00	13	13	1.130
2.W EXT MINI TWIN SQR	1	208	426.0	0.66	2.0	5.00	1.00	36	36	1.235
2.W EXT NEIGH ROOM 01	1	96	208.0	0.66	5.0	5.00	1.00	37	37	1.014
2.W EXT NEIGH ROOM 02	1	84	179.0	0.66	4.0	5.00	1.00	31	31	1.061
2.W EXT OPEN COL 2048	1	173	459.0	0.66	14.0	5.00	1.00	88	88	0.843
2.W EXT OPEN OFF 2030	1	925	1253.0	0.66	4.0	5.00	1.00	85	85	1.223
INT Floor 1										
1.W INT FOCUS 016	1	24	84.0	0.66	2.0	5.00	1.00	14	14	0.825
1.W INT FOCUS 06	1	22	53.0	0.66	2.0	5.00	1.00	13	13	0.910
1.W INT MINI TWIN SQR 1037	1	315	649.0	0.66	25.0	5.00	1.00	176	176	0.840
1.W INT OPEN AREA 03	1	137	300.0	0.66	6.0	5.00	1.00	84	84	0.795
1.W INT OPEN AREA 03	1	100	643.0	0.66	0.0	5.00	1.00	66	66	0.845
1.W INT OPEN AREA 04	1	516	2433.0	0.66	37.0	5.00	1.00	331	331	0.762
1.W INT ROOM 1038	1	78	142.0	0.66	0.0	5.00	1.00	21	21	1.140
INT Floor 2										
2.W INT CORR 01	1	98	247.0	0.66	8.0	5.00	1.00	56	56	0.844
2.W INT CORR 02	1	184	1009.0	0.66	6.0	5.00	1.00	90	90	0.854
2.W INT FOCUS 03	1	23	54.0	0.66	2.0	5.00	1.00	13	13	0.832
2.W INT FOCUS 04	1	23	56.0	0.66	2.0	5.00	1.00	13	13	0.835
2.W INT FOCUS 08	1	15	49.0	0.66	1.0	5.00	1.00	8	8	0.880
2.W INT MINI TWIN SQR	1	355	649.0	0.66	29.0	5.00	1.00	196	196	0.852
2.W INT OPEN OFF 2025	1	952	2433.0	0.66	37.0	5.00	1.00	331	331	0.827

OUTSIDE AIR CALCULATION/TABLE NOTES:
(APPLY THIS SHEET ONLY)

- BALANCE OUTSIDE AIR SYSTEM SERVING THE SPACE TO PROVIDE, AT A MINIMUM, THE OUTSIDE AIR RATE INDICATED.
- MECHANICAL SYSTEMS FOR VAVS HAVE BEEN DESIGNED TO PROVIDE A SUPPLY AIR TEMPERATURE LESS THAN 15°F ABOVE SPACE TEMPERATURE AND REACH WITHIN 4½ FEET OF FLOOR LEVEL AT 150 FPM.

SOUTHWEST UNIT AIR OUTSIDE AIR TABLE
M1.004 NO SCALE

Ventilation Sizing Summary for OA Calcs NE Side

Project Name: 170358 - UNUM
Prepared by: BVA

08/17/2017
08/15/2017

1. Summary
Ventilation Sizing Method: ASHRAE 62.1-2019
Design Condition: Minimum Flow/cooling
Occupied Density (D): 1.000 CFM
Unoccupied Density (U): 0.100 CFM
System Ventilation Efficiency (E_v): 0.776
Outdoor Air Intake (OA): 2790 CFM

2. Space Ventilation Analysis

Zone Name / Space Name	Multi	Minimum Supply Air (CFM)	Space Floor Area (SF)	Area Outdoor Air Rate (CFM/SF)	Time Averaged Occupancy (PPH)	People Outdoor Air Rate (CFM/Person)	Air Distribution Effectiveness (E _a)	Space Outdoor Air (CFM)	Breakdown Zone Outdoor Air (CFM)	Space Ventilation Efficiency (E _v)
EXT Floor 1										
1.W EXT COR AREA 1120	1	296	653.0	0.56	5.0	5.00	1.00	65	65	1.132
1.W EXT COR 1031 SE	1	130	189.0	0.66	1.0	5.00	1.00	12	12	1.111
1.W EXT COR 1031 SW	1	130	189.0	0.66	1.0	5.00	1.00	12	12	1.111
1.W EXT COR 1032	1	201	201.0	0.66	0.0	5.00	1.00	52	52	0.963
1.W EXT COR 1033	1	130	189.0	0.66	1.0	5.00	1.00	12	12	1.111
1.W EXT NEIGH ROOM 1099	1	102	147.0	0.66	4.0	5.00	1.00	29	29	0.932
1.W EXT NEIGH ROOM 1100	1	102	147.0	0.66	4.0	5.00	1.00	29	29	0.932
1.W EXT NEIGH ROOM 1096	1	103	151.0	0.66	4.0	5.00	1.00	29	29	0.931
1.W EXT NEIGH ROOM 1098	1	103	151.0	0.66	4.0	5.00	1.00	29	29	0.931
1.W EXT OPEN AREA	1	368	368.0	0.66	0.0	5.00	1.00	9	9	0.911
1.W EXT OPEN COL 1035	1	700	1291.0	0.66	58.0	5.00	1.00	152	152	0.959
1.W EXT OPEN COL 1041 NE	1	70	70.0	0.66	1.0	5.00	1.00	9	9	1.089
1.W EXT OPEN COL 1041 SW	1	110	120.0	0.66	1.0	5.00	1.00	9	9	1.139
1.W EXT OPEN COL 1042	1	101	110.0	0.66	1.0	5.00	1.00	9	9	1.050
1.W EXT OPEN COL 1043	1	180	180.0	0.66	5.0	5.00	1.00	33	33	0.839
1.W EXT OPEN COL 1044	1	128	128.0	0.66	4.0	5.00	1.00	31	31	0.969
1.W EXT OPEN OFF 1045	1	440	470.0	0.66	2.0	5.00	1.00	30	30	1.137
1.W EXT OPEN OFF 1047	1	480	500.0	0.66	2.0	5.00	1.00	33	33	1.137
1.W EXT OPEN OFF 1051	1	853	883.0	0.66	4.0	5.00	1.00	68	68	1.136
1.W EXT OPEN OFF 1052	1	853	883.0	0.66	4.0	5.00	1.00	68	68	1.136
1.W EXT OPEN OFF 1054	1	710	826.0	0.66	4.0	5.00	1.00	70	70	1.113
1.W EXT OPEN OFF 1055	1	710	826.0	0.66	4.0	5.00	1.00	70	70	1.113
1.W EXT NEIGH ROOM 1011	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT NEIGH ROOM 1012	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT NEIGH ROOM 1013	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT NEIGH ROOM 1014	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT NEIGH ROOM 1015	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT NEIGH ROOM 1016	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT NEIGH ROOM 1017	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT NEIGH ROOM 1018	1	120	151.0	0.66	4.0	5.00	1.00	29	29	0.962
1.W EXT OPEN COL 1031 NE	1	280	141.0	0.66	2.0	5.00	1.00	18	18	1.145
1.W EXT OPEN COL 1031 SW	1	280	141.0	0.66	2.0	5.00	1.00	18	18	1.145
1.W EXT OPEN COL 1031 SE	1	144	114.0	0.66	1.0	5.00	1.00	12	12	1.135

Ventilation Sizing Summary for OA Calcs NE Side

Project Name: 170358 - UNUM
Prepared by: BVA

08/17/2017
08/15/2017

1.W EXT OPEN OFF 1046 NW 1 | 897 | 1024.0 | 0.66 | 5.0 | 5.00 | 1.00 | 80 | 80 | 1.129 |

1.W EXT OPEN OFF 1047 NW 1 | 625 | 691.0 | 0.66 | 5.0 | 5.00 | 1.00 | 56 | 56 | 1.120 |

1.W EXT OPEN OFF 1049 SW 1 | 251 | 247.0 | 0.66 | 1.0 | 5.00 | 1.00 | 20 | 20 | 1.126 |

1.W EXT WELLNESS 1 | 21 | 62.0 | 0.66 | 1.0 | 5.00 | 1.00 | 6 | 6 | 0.837 || EXT Floor 2 | | | | | | | | | | |
2.W EXT CORP 2001 SE	1	139	109.0	0.66	1.0	5.00	1.00	12	12	1.131
2.W EXT CORP 2001 SW	1	52	72.0	0.66	1.0	5.00	1.00	4	4	1.056
2.W EXT CORP 2001 NW	1	208	201.0	0.66	1.0	5.00	1.00	12	12	1.056
2.W EXT HALL	1	275	366.0	0.66	2.0	5.00	1.00	32	32	0.996
2.W EXT NEIGH ROOM 2009	1	102	147.0	0.66	4.0	5.00	1.00	29	29	0.932
2.W EXT NEIGH ROOM 2008	1	103	148.0	0.66	4.0	5.00	1.00	29	29	0.932
2.W EXT NEIGH ROOM 2007	1	103</								