

Appendix C: Demand Controlled Ventilation Analysis-Design Heating

Oc/Unoc	Zone	Space	Occupancy Type	Occupancy (people)	Floor Area (ft^2)	R_p (cfm/person)	R_a (cfm/ft^2)	V_bz (cfm)	DCV V_bz (cfm)	Min Supply Air (cfm)	Primary Supply Air (cfm)	Z_p	DCV Z_p
1	1	376	Office	1	440	5	0.06	31	31	160	160	0.20	0.20
1	2	333	Office	1	450	5	0.06	32	32				
1		334	Office	1	350	5	0.06	26	26				
1		335	Office	1	350	5	0.06	26	26				
0			Hallway	0	300	5	0.06	18	18				
Total								102	102	400	400	0.26	0.26
1	3	377	Office	1	260	5	0.06	21	21				
1		378	Office	1	245	5	0.06	20	20				
1		379	Office	1	245	5	0.06	20	20				
1		380	Office	1	245	5	0.06	20	20				
1		381	Office	1	245	5	0.06	20	20				
1		382	Office	1	360	5	0.06	27	27				
Total								126	126	635	635	0.20	0.20
1	4	375	Open Office	8	1500	5	0.06	130	130	246	600	0.53	0.22
0	5	337	Conference	14	450	5	0.06	97	27				
0		338	Copy/Fax	1	130	5	0.06	13	8				
Total								110	35	200	200	0.55	0.17
1	6	301	Office	1	255	5	0.06	20	20				
1		302	Office	1	255	5	0.06	20	20				
1		303	Office	1	220	5	0.06	18	18				
1		304	Office	1	220	5	0.06	18	18				
1		305	Office	1	220	5	0.06	18	18				
Total								95	95	526	525	0.18	0.18
1	7	330	Open Office	2	200	5	0.06	22	22				
1		332	Open Office	5	700	5	0.06	67	67				
0		340	Break Rm	8	375	5	0.06	63	23				
1		341	Office	1	175	5	0.06	16	16				
1		342	Office	1	175	5	0.06	16	16				
0		343	File Rm	1	860	5	0.06	57	52				
0			Hallway	0	350	5	0.06	21	21				
Total								183	143	416	2080	0.44	0.07
0	8	383	Conference	10	325	5	0.06	70	20				
0		384	Conference	22	550	5	0.06	143	33				
Total								213	53	400	1040	0.53	0.05
1	9	367	Office	1	200	5	0.06	17	17				
1		368	Office	1	200	5	0.06	17	17				
1		370	Reception	3	550	5	0.06	48	48				
0		371	Copy/Fax	1	220	5	0.06	18	13				
1		372	Office	1	265	5	0.06	21	21				
1		373	Office	1	265	5	0.06	21	21				
0			Hallway	0	1300	5	0.06	78	78				
Total								142	137	428	840	0.33	0.16
1	10	322	Open Office	4	400	5	0.06	44	44				
1		324	Office	1	215	5	0.06	18	18				
1		326	Office	1	215	5	0.06	18	18				
1		328	Office	1	215	5	0.06	18	18				
1		329	Open Office	3	300	5	0.06	33	33				
0			Hallway	0	300	5	0.06	18	18				
Total								131	131	320	840	0.41	0.16
1	11	306	Office	1	240	5	0.06	19	19				
1		307	Open Office	4	430	5	0.06	46	46				
1		308	Open Office	4	430	5	0.06	46	46				
0			Hallway	0	170	5	0.06	10	10				
Total								111	111	480	480	0.23	0.23
0	12	308	Conference	20	500	5	0.06	130	30	260	260	0.50	0.12
0	13	385	Copy/Fax	1	170	5	0.06	15	10				
1		386	Office	1	250	5	0.06	20	20				
1		387	Office	1	250	5	0.06	20	20				
1		388	Office	1	250	5	0.06	20	20				
1		389	Office	1	250	5	0.06	20	20				
1		390	Office	1	250	5	0.06	20	20				
1		391	Office	1	250	5	0.06	20	20				
Total								135	130	660	660	0.20	0.20
1	14	363	Open Office	3	350	5	0.06	36	36	200	500	0.18	0.07
0	15	319	Break Rm	8	300	5	0.06	58	18				
1		320	Open Office	3	500	5	0.06	45	45				
Total								103	63	200	270	0.52	0.23
1	16	310	Office	1	225	5	0.06	19	19				
1		311	Office	1	225	5	0.06	19	19				
1		312	Open Office	4	450	5	0.06	47	47				
1		313	Office	1	225	5	0.06	19	19				
1		314	Office	1	225	5	0.06	19	19				
Total								121	121	660	660	0.18	0.18
1	17	317	Open Office	8	920	5	0.06	95	95				
0			Hallway	0	500	5	0.06	30	30				
Total								125	125	230	570	0.54	0.22
1	18	361	Office	1	200	5	0.06	17	17				
1		392	Office	1	275	5	0.06	22	22				
Total								39	39	180	180	0.21	0.21
1	19	315	Office	1	200	5	0.06	17	17				
1		316	Office	1	200	5	0.06	17	17				
1		358/359	Open Office	8	900	5	0.06	94	94				
1		360	Office	1	200	5	0.06	17	17				
Total								145	145	420	850	0.35	0.17
0	20	356	Conference	8	200	5	0.06	52	12				
0		357	Conference	8	200	5	0.06	52	12				
Total								104	24	328	328	0.32	0.07

OA Conditions	
DBT	WBT

V_ou	Max Z_p	E_v	V_ot
2281	0.55	0.6	3802

DCV			
V_ou	Max Z_p	E_v	V_ot
1776	0.26	0.8	2220

Table 6.3	
Z_p	E_v
<0.15	1
<0.25	0.9
<0.35	0.8
<0.45	0.7
<0.55	0.6
>0.55	Appen. A

Appendix C: Demand Controlled Ventilation Analysis-Design Cooling

Oc/Unoc	Zone	Space	Occupancy Type	Occupancy (people)	Floor Area (ft^2)	R_p (cfm/person)	R_a (cfm/ft^2)	V_bz (cfm)	DCV V_bz (cfm)	Min Supply Air (cfm)	Primary Supply Air (cfm)	Z_p	DCV Z_p
1	1	376	Office	1	440	5	0.06	31	31	160	800	0.20	0.04
1	2	333	Office	1	450	5	0.06	32	32				
1		334	Office	1	350	5	0.06	26	26				
1		335	Office	1	350	5	0.06	26	26				
0			Hallway	0	300	5	0.06	18	18				
Total								102	102	400	2000	0.26	0.05
1	3	377	Office	1	260	5	0.06	21	21				
1		378	Office	1	245	5	0.06	20	20				
1		379	Office	1	245	5	0.06	20	20				
1		380	Office	1	245	5	0.06	20	20				
1		381	Office	1	245	5	0.06	20	20				
1		382	Office	1	360	5	0.06	27	27				
Total								126	126	635	3175	0.20	0.04
1	4	375	Open Office	8	1500	5	0.06	130	130	246	1230	0.53	0.11
0	5	337	Conference	14	450	5	0.06	97	27				
0		338	Copy/Fax	1	130	5	0.06	13	8				
Total								110	35	106	530	0.33	0.07
1	6	301	Office	1	255	5	0.06	20	20				
1		302	Office	1	255	5	0.06	20	20				
1		303	Office	1	220	5	0.06	18	18				
1		304	Office	1	220	5	0.06	18	18				
1		305	Office	1	220	5	0.06	18	18				
Total								95	95	526	2630	0.18	0.04
1	7	330	Open Office	2	200	5	0.06	22	22				
1		332	Open Office	5	700	5	0.06	67	67				
0		340	Break Rm	8	375	5	0.06	63	23				
1		341	Office	1	175	5	0.06	16	16				
1		342	Office	1	175	5	0.06	16	16				
0		343	File Rm	1	860	5	0.06	57	52				
0			Hallway	0	350	5	0.06	21	21				
Total								183	143	416	2080	0.34	0.07
0	8	383	Conference	10	325	5	0.06	70	20				
0		384	Conference	22	550	5	0.06	143	33				
Total								213	53	280	1400	0.19	0.04
1	9	367	Office	1	200	5	0.06	17	17				
1		368	Office	1	200	5	0.06	17	17				
1		370	Reception	3	550	5	0.06	48	48				
0		371	Copy/Fax	1	220	5	0.06	18	13				
1		372	Office	1	265	5	0.06	21	21				
1		373	Office	1	265	5	0.06	21	21				
0			Hallway	0	1300	5	0.06	78	78				
Total								142	137	428	2140	0.32	0.06
1	10	322	Open Office	4	400	5	0.06	44	44				
1		324	Office	1	215	5	0.06	18	18				
1		326	Office	1	215	5	0.06	18	18				
1		328	Office	1	215	5	0.06	18	18				
1		329	Open Office	3	300	5	0.06	33	33				
0			Hallway	0	300	5	0.06	18	18				
Total								131	131	320	1600	0.41	0.08
1	11	306	Office	1	240	5	0.06	19	19				
1		307	Open Office	4	430	5	0.06	46	46				
1		308	Open Office	4	430	5	0.06	46	46				
0			Hallway	0	170	5	0.06	10	10				
Total								111	111	480	2400	0.23	0.05
0	12	308	Conference	20	500	5	0.06	130	30	260	1300	0.12	0.02
0	13	385	Copy/Fax	1	170	5	0.06	15	10				
1		386	Office	1	250	5	0.06	20	20				
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Total								121	121	660	3300	0.18	0.04
1	17	317	Open Office	8	920	5	0.06	95	95				
0			Hallway	0	500	5	0.06	30	30				
Total								125	125	230	1150	0.54	0.11
1	18	361	Office	1	200	5	0.06	17	17				
1		392	Office	1	275	5	0.06	22	22				
Total								39	39	180	900	0.21	0.04
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1		316	Office	1	200	5	0.06	17	17				
1		358/359	Open Office	8	900	5	0.06	94	94				
1		360	Office	1	200	5	0.06	17	17				
Total								145	145	420	2100	0.35	0.07
0	20	356	Conference	8	200	5	0.06	52	12				
0		357	Conference	8	200	5	0.06	52	12				
Total								104	24	100	500	0.24	0.05

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V_ou	Max Z_p	E_v	V_ot
1776	0.11	1	1776

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<0.45	0.7
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