

Summary of CosaTron® Application Guides*

Type of Application	Problem Area	Ceiling Height (ft)	Air Change Rate			Recommended Outside Air	Minimum Air Filter MERV Rating (%)	Remarks
			Recommended		Minimum			
			VAV	CAV	CAV			
Airports	Baggage Claim	10-12	10	8	7	10%	8-10 (80%)	Estimated Occupancy 70-100 p/1000 ft2
	Concourse	10-12	9	7	6	10%	8-10 (80%)	
	Ticketing	12-14	10	8	6	10%	8-10 (80%)	
Animal Handling & Medical Facilities	Animal & Medical Odors	8-10	N/A	25	23	25%	15 (95%)	Outside air to balance hood exhaust
	Contagious Particulate	12-14	N/A	20	18	25%	15 (95%)	
Bingo Halls & Casinos	Smoke & Body Odor; Infectious Particulate; Pollen	8	N/A	19	17	Greater of 10 cfm per person, or 15%	8-10 (80%)	Dedicated exhaust fan equal to 10% of total air supply
		10	N/A	18	16		8-10 (80%)	
		12	N/A	17	15		8-10 (80%)	
		14	N/A	16	14		8-10 (80%)	
Bowling Centers	Smoke, Food & Body Odors; Infection	10-12	12	10	8.5	Greater of 7.5 cfm per person, or 15%	8-10 (80%)	Dedicated exhaust fan equal to 10% of total air supply
		10-12	11	10	8.5		8-10 (80%)	
Classrooms and Educational Facilities	Body Odors, Congestion, Infectious Particulate	8-10	17	15	13	10%	8-10 (80%)	Estimated Occupancy 60 p/1000 ft2
Communication and Call Centers	Body Odors, Congestion, Infection	8-10	20	15	12	10-12%	8-10 (80%)	Estimated Occupancy 60 p/1000 ft2 5-7 cfm/person minimum Air distribution system important
		11-13	18	13	11	10-12%	8-10 (80%)	
		12-15	20	18	15	10%	8-10 (80%)	
		14-16	16	11	10	10-11%	8-10 (80%)	
Conference & Meeting Rooms	Congestion, Body, & Food Odor, Infection	8-10	17	15	13	10%	8-13 (85-90%)	Estimated Occupancy 50-120 p/1000 ft2
		12-14	14	12	11	10%	8-13 (85-90%)	
Convention & Performing Arts Centers	Human, Animal, Food Odor, Congestion, Infection	15-20	12	10	9	7.5 cfm per person minimum	8-10 (80%)	Estimated Occupancy 80 p/1000 ft ²
		30-40	10	8	7		8-10 (80%)	
		50-60	8	6	5		8-10 (80%)	
Dog or Horse Tracks, and Off-Track Betting	Club/Dining Area	10-12	17	15	13	Greater of 7.5 cfm per person, or 10%	8-10 (80%)	Mechanical exhaust fan to equal 10% of total air supply
	Stadium Seating	30-40	18	16	14		8-10 (80%)	
	Paramutual Betting	50-60	8	6	5		8-10 (80%)	
Hospital and Medical Center Facilities	Emergency Rooms	10-12	N/A	12	10	20%	15-16 (95% DOP or 99.99% DOP-HEPA)	In Accordance with USPHS Recommendations
	OR (100% OS Air)	N/A	N/A	15	15	100%		
	OR (Recirculation)	N/A	N/A	25	25	20%		
	Delivery Rooms	N/A	N/A	20	15	20%		
	Recovery/ICU	N/A	N/A	12	10	20%		
	Autopsy/Morgue	N/A	N/A	30	25	20%		
Laboratories	Chemical Odors, Dirt, Dust, other Contaminants	8-10	N/A	20	18	15%	8-13 (85-90%)	Outside air required to balance hood exhaust
		12-14	N/A	18	16	15%	8-13 (85-90%)	
Museums, Libraries, and Archive Storage Facilities	Dust, Dirt, Body Odors, Congestion, Degrading Bio- aerosols	8-10	14	12	10	Greater of 5 cfm per person, or 10%	8-13 (85-90%)	Expected occupancy 30 p/1000 ft2
		10-12	12	10	8		8-13 (85-90%)	
Motor Control Centers (MCC) & Operator Control Rooms	Corrosion & Contamination of Controls & Instrumentation; Employee Exposure to Contaminates	8-10	N/A	20	18	10%	8-13 (85-90%)	Pre-testing required; Positive pressure required; Monitoring options should be considered; Energy & Systems balances should be undertaken
		11-15	N/A	18	16	10%	8-13 (85-90%)	
		15-20	N/A	16	14	10%	8-13 (85-90%)	
Nursing Homes, and Special Health Care Facilities	Medical Procedures, Pharmacy, Physical Therapy, Patient Rooms, Dining Rooms - Odor, Contaminates, Infectious Particulates	8-10	N/A	15	12	20%	15-16 (90% DOP or 95% DOP- HEPA)	In Accordance with USPHS Recommendations
		11-13	N/A	12	10	20%		
		13-15	N/A	8	6	10%		
Office Buildings	Human and Food Odor, Congestion; Infectious Particulate	8-10	12	10	8.5	7.5 cfm per person minimum	8-10 (80%)	30 ft2 /person
		8-10	10	8	6	7.5 cfm per person minimum	8-10 (80%)	50 ft2/person
		10-12	8	6	4.5	5 cfm per person minimum	8-10 (80%)	75 ft2/person
Paper Processing Centers	Without Printers	8-10	N/A	40	30	5 cfm per person minimum	6-8 (45-55%)	VAV Systems should not be used
	With Printers	8-10	N/A	40	35		8-13 (85%)	
Printing & Graphic Arts Facilities	Ink & Solvent Odors, Dust and Dirt Deposition	8-10	N/A	22	20	10%	13-15 (90-95%)	Outside air to balance exhaust hoods
		11-13	N/A	20	18	10%	13-15 (90-95%)	
		14-16	N/A	18	16	10%	13-15 (90-95%)	
Restaurants, Dining Areas, and Lounges	Food & Body Odors, Smoke, and Congestion, Contagious Particulate	8-10	15	15	13	Greater of 10 cfm per person, or 10%	8-10 (80%)	Estimated Occupancy 70-100 p/1000 ft2
		11-14	13	13	11		8-10 (80%)	
		15-18	11	11	10		8-10 (80%)	
Schools	Bacteria & Infectious Particulate, Pollen, Dust	8-10	17	15	13	10%	8-10 (80%)	Estimated Occupancy 60 p/1000 ft2
		11-15	14	12	11			
Smoking Facilities	Congestion, Smoke, and Body Odor	8-10	N/A	38	35	Greater of 15 cfm per person, or 10%	13-15 (90-95%)	Dedicated exhaust fan equal to 10% of total air supply
		10-12	N/A	35	33			
Sports Arenas	Body & Food Odors, Congestion, Smoke, Contagious Particulate	20-30	11	9	8	7.5 cfm per person minimum	8-10 (80%)	Estimated Occupancy 150 p/1000 ft2
		30-40	10	8	7		8-10 (80%)	
		40-50	9	7	6		8-10 (80%)	
Technical Schools	Welding & Machine Fumes, Solvents, Body Odors	10-12	24	20	18	15%	8-10 (80%)	Air distribution systems important
		14-16	20	18	17	15%	8-10 (80%)	