



CARBON FOOTPRINT



MONTH 1 - THE ENERGY CONSERVATION OPPORTUNITY: Air Terminals for Most Building Applications – Basis of Design Document

BASIS OF DESIGN - (BofD) - 1980s

Application: Original design intent – Typical air terminals with DDC

Unit Type	Example Space	Hrs of Operation	Max cfm	Min cfm
VAV, VAVRH	Public and perimeter space	24/7	4 - 6 ach, 4 -10 ach	2 ach, 6 ach
CV, CVRH	fume hoods, specialty space	24/7	4 - 15 ach, 4 -15 ach	12 ach, 6 ach
VV-FPDB	Conference	24/7	4 - 12 ach	4 ach
VV-FPBRH	Perimeter classrooms	6 a.m. - 10 p.m. 5 days/wk	4 - 10 ach	6 ach

Temperature and humidity for public space admin/office, classrooms, and conference rooms

Heating season: Occupied 70°F, 20% rh; unoccupied 62°, 20% rh; Cooling season: Occupied 76°, 55% rh; unoccupied 76°, 55% rh

Temperature and humidity for tel-data room: Heating season: Occupied 72°, 55% rh; unoccupied - not applicable;

Cooling season: Occupied 72°, 55% rh; unoccupied - not applicable

Existing energy conservation features for occupied space (where applicable): CO₂: [Y] [N]; Night setback: [Y] [N]; Occupancy sensors: [Y] [N]

Energy Conservation features for the associated central AHUs: Airside economizer: [Y] [N]; Occupied/unoccupied cycle: [Y] [N]; Filters: prefilter: 30% efficiency

HWS: 190°; HWR: 170°; CHWS: 42°; CHWR: 54°; Supply air temperature: 55° heating season; 55° cooling season

Energy Retrocommissioning Report/BofD

Unit Type	Example Space	Hrs of Operation	Max cfm	Min cfm
VAV, VAVRH	Public and perimeter space	6 a.m. to 10 p.m. 7-days/wk	4 ach, 4 - 8 ach	2 ach, 2 ach
CV, CVRH	fume hoods, specialty space	6 a.m. to 10 p.m. 5-days/wk, 24/7	6 - 12 ach, 4 -10 ach	2 ach, 2 ach
VV-FPDB	Conference Conference	6 a.m. to 10 p.m. 7-days/wk	6 - 12 ach	1 ach
VV-FPBRH	Perimeter classrooms	6 a.m. to 10 p.m. 5-days/wk	6 - 10 ach	2 ach

Temperature and humidity for public space admin/office, classrooms, and conference rooms

Heating season: Occupied 68°, 20% rh; unoccupied 62°, 20% rh; Cooling season: Occupied 76°, 55% rh; unoccupied 82°, 55% rh

Temperature and humidity for tel-data room

Heating season: Occupied 72°, 35% rh; unoccupied - not applicable; Cooling season: Occupied 72°, 60% rh; unoccupied - not applicable

Proposed energy conservation features for occupied space excluding tel-data space

CO₂: [Y] [N]; Night setback: [Y] [N]; Occupancy sensors: [Y] [N]

Energy Conservation features for the associated central AHUs

Airside economizer: [Y] [N]; Waterside economizer: [Y] [N]; Occupied/unoccupied cycle: [Y] [N]; Morning warm-Up: [Y] [N]; Evening cool-down: [Y] [N]; Supply air temperature reset: [Y] [N]; filters: prefilter: 30% efficiency (MERV 8) with new final: 95% efficiency (MERV 15)

HWS: 190°; HWR: 150°; CHWS: 44°; CHWR: 56°

Supply air temperature: 65° heating season; 55° cooling season