

BELMONT MIDDLE & HIGH SCHOOL

HVAC SYSTEM STRATEGIES FOR IMPROVING INDOOR AIR QUALITY

SCHOOL BUILDING COMMITTEE
MEETING

SEPTEMBER 23, 2020

BALA

BUILDING HVAC SYSTEM TYPES

❑ Mixed/Recirculation Air Systems

- ❑ Auditorium/ Stage/ Commons
- ❑ Black Box/ Music
- ❑ Field House/ Small Gy
- ❑ Pool

❑ Dedicated Outside Air Systems

- ❑ Classrooms
- ❑ Administration Offices
- ❑ Fitness
- ❑ Locker Rooms

❑ VAV/ Chilled Beam Units

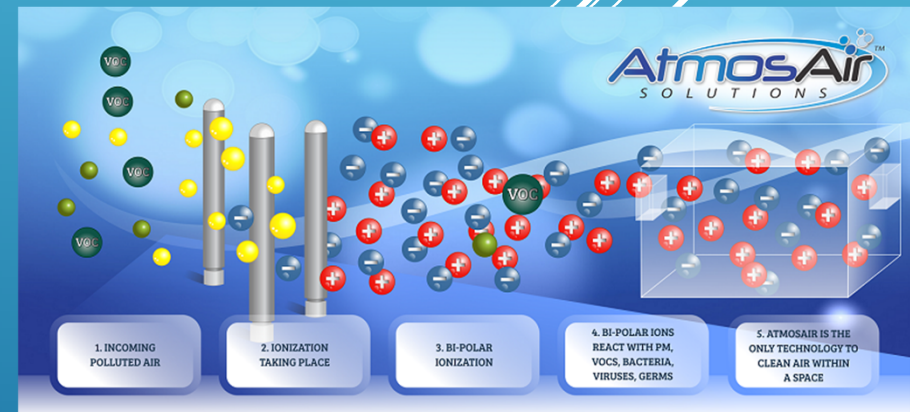
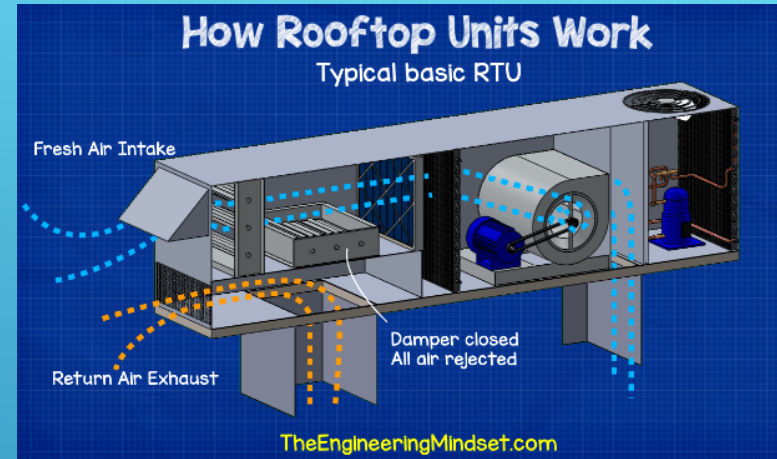
- ❑ Classrooms
- ❑ Media
- ❑ Work/ Group Spaces

❑ Administration VRF Fan Coil Units

- ❑ Ducted Fan Coil Units
- ❑ Ductless Ceiling Cassettes

MIXED/RECIRCULATION AIR SYSTEMS STRATEGIES

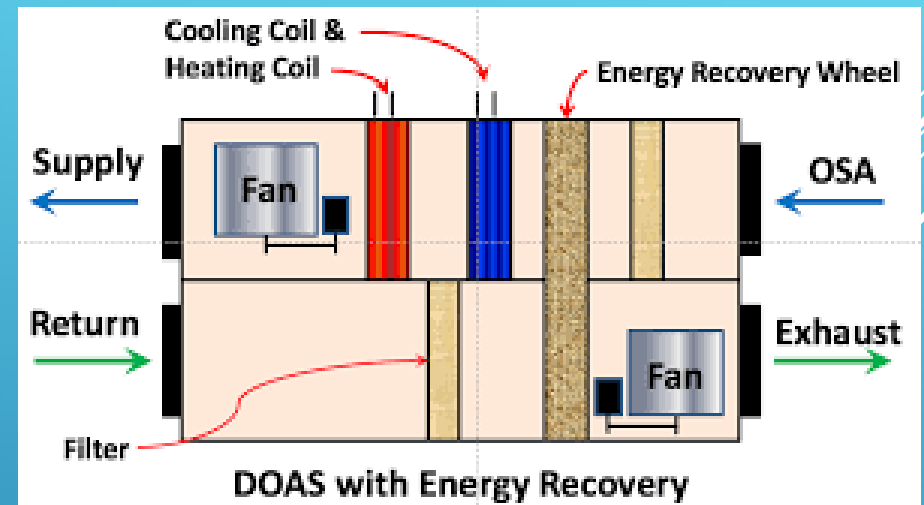
- ❑ Currently Have MERV 13 Filters
- ❑ Ventilation Rates in Excess of Code Requirements
- ❑ Controls Strategies:
 - ❑ Extended Hours of Operation
 - ❑ Demand Control Override
 - ❑ Pressurization Control
- ❑ Increased Ventilation
 - ❑ Based on outside conditions
 - ❑ Widen range of acceptable indoor conditions
- ❑ System Modifications
 - ❑ Bipolar Ionization
 - ❑ UV-C



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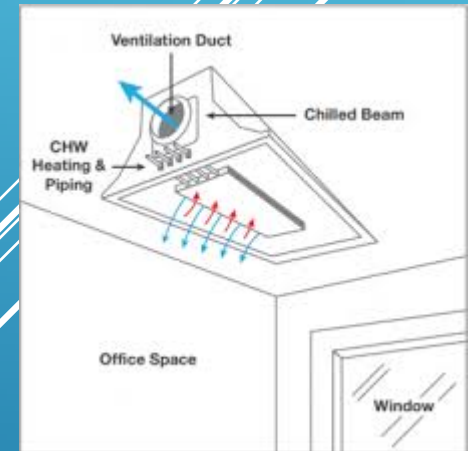
DEDICATED OUTSIDE AIR SYSTEMS STRATEGIES

- ❑ Currently Have MERV 13 Filters
- ❑ Ventilation Rates in Excess of Code Requirements
- ❑ Controls Strategies:
 - ❑ Extended Hours of Operation
 - ❑ Demand Control Override
 - ❑ Pressurization Control
- ❑ Limited Increased Ventilation
 - ❑ Based on outside conditions
 - ❑ Widen range of acceptable indoor conditions
- ❑ System Modifications
 - ❑ Bipolar Ionization



VAV/ CHILLED BEAM UNITS STRATEGIES

- Ductless
 - No Filter Options
 - Bipolar Ionization – VAV Supply Duct
- Extended Hours of Operation



VRF FAN COIL UNITS STRATEGIES

- ❑ Ducted Units
 - 1-inch or 2-inch MERV 13 Filters
 - Bipolar Ionization – FCU Supply Duct
- ❑ Ductless Units
 - No Filter Options
 - Bipolar Ionization – VAV Supply Duct
- ❑ Extended Hours of Operation

