Driftmier Engineering Center (1090)

The Driftmier Engineering Center was originally constructed in 1964 with approximately 98,000 square feet of floor area. It has undergone a number of partial renovations since this time. The building is currently undergoing renovations, with the first two phases of the project complete. Driftmier is served by a combination of wall mounted fan-coil units, single zone, constant volume air handlers and variable volume, air handling units with variable volume terminal units.

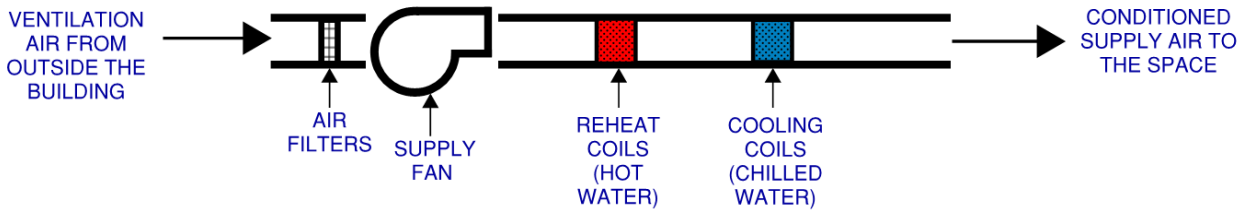
The two-story portion of the building is primarily conditioned by hydronic four pipe fan coil units (FCUs). The perimeter zones are served by vertical fan coil units or unit ventilators (UV) installed in the casework in the exterior wall below the glazing. One FCU or UV is provided in each exterior zone (office or conference room). A constant volume air handling unit, AHU-1, provides conditioning for the interior zones and ventilation air to the exterior zones. Five supplemental horizontal fan coil units located above the ceiling serve interior zones on the second floor. The AHU, FCUs and UVs are not original to the building and were installed as part of a renovation in 1999.

The balance of the building is currently under renovation. The renovated areas are served by two modular air handling units. The units are variable volume systems with hot water pre-heat coils and chilled water cooling coils. Each unit is equipped with MERV 14 filters.

Chilled water is supplied throughout the building from a chiller located in the mechanical room or from the campus chilled water system. Heating hot water, distributed throughout the building for heating, is provided by a steam to water heat exchanger using steam from the campus steam system.

DEDICATED OUTDOOR AIR SYSTEM

The ventilation system can be thought of as a building fresh air system that brings in outside air, conditions it and distributes it to individual offices and rooms in the East wing of the building. This also includes controlled exhaust which provides exhaust at restrooms on each floor to control odors and maintain appropriate building pressurization via roof mounted exhaust fans. The two Dedicated Ventilation Air Units include hot water and chilled water coils for heating and cooling and a fan that delivers fresh air from outside of the building through a ductwork riser where it is delivered to the each space.



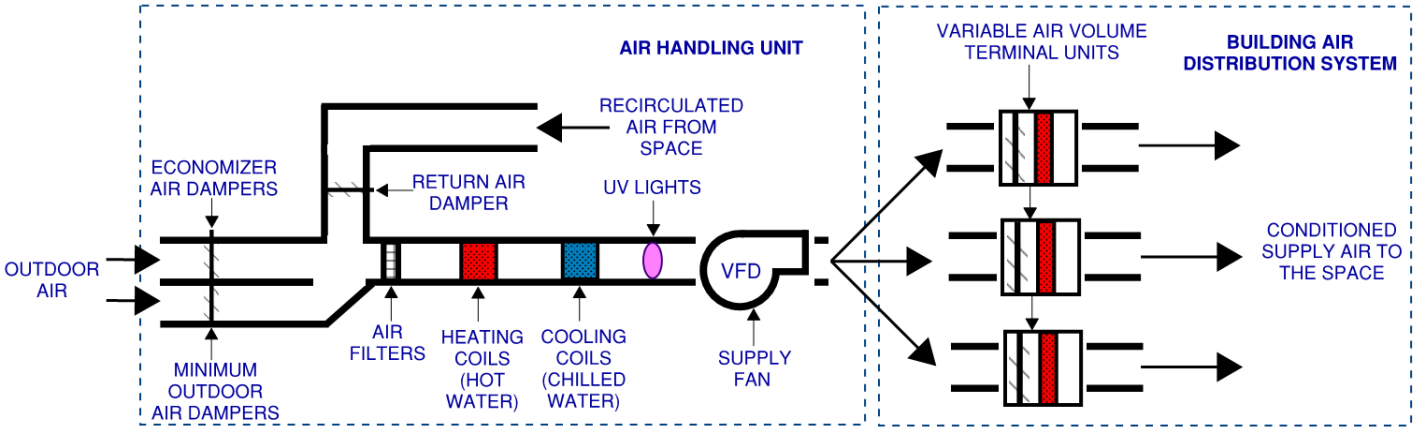
DEDICATED VENTILATION UNIT SCHEMATIC

VARIABLE VOLUME AIR HANDLING UNITS

The air handling unit delivers a variable volume of conditioned air consisting of a mixture of recirculated building air and fresh air from outside of the building. The return air is filtered, mixed with outdoor air and cooled with chilled water coils in the air handling unit before being supplied to rooms throughout the building via above ceiling ductwork.

Space heating is provided by Variable Air Volume terminal units (VAVs) with hot water reheat coils located in supply ductwork throughout the building. The VAVs are equipped with an air damper to regulate the volume of air delivered from the central AHU to the space based on the current space temperatures and a hot water reheat coil to provide space heating when needed. The VAVs include a fan and a filter combination that will mix air from above the ceiling with the conditioned air from the central AHU when the space requires heating.

Air is recirculated from the spaces back to the air handling units through ceiling mounted air return registers located in each space. Return air is pulled from a plenum space above the ceiling. Exhaust is provided in restrooms on each floor to remove odors and to maintain a slightly positive building pressurization.

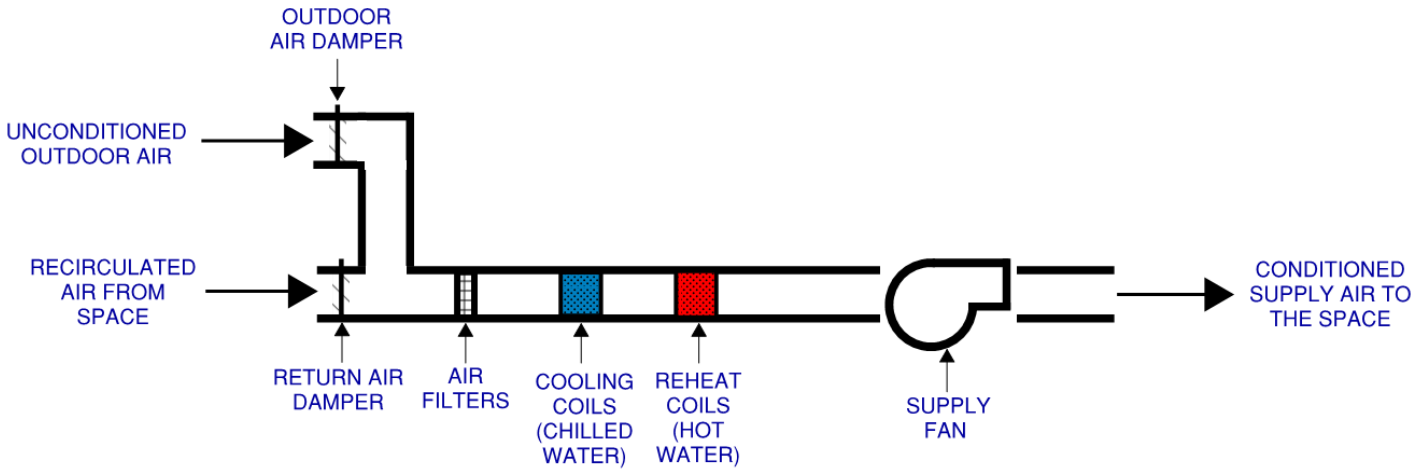


VARIABLE VOLUME AIR HANDLING UNIT SCHEMATIC

SINGLE ZONE AIR HANDLING UNITS

The air handling unit delivers a constant volume of conditioned air consisting of a mixture of recirculated building air and fresh air from outside of the building. The building return air is filtered, mixed with outdoor air and cooled with chilled water coils and/or heated with hot water coils in the air handling unit before being supplied to the space served via above ceiling ductwork.

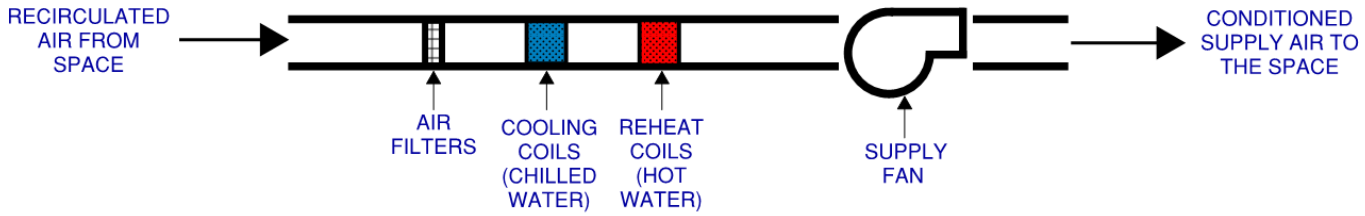
Air is recirculated back to the air handling units through ceiling mounted air return registers located in the space(s) served. Return air is pulled from a plenum space above the ceiling. Exhaust is provided in restrooms on each floor to remove odors and to maintain a slightly positive building pressurization.



SINGLE ZONE AIR HANDLING UNIT SCHEMATIC

FAN COIL UNITS

A fan coil unit is fairly simple: it's a fan with a coil or coils (like a car radiator) that can add heating and cooling to the air stream flowing through it. The FCUs have air filters to remove particulate matter from the air, a hot water coil and chilled water coil for heating and cooling the air, and a supply fan for forced air circulation through the unit and into the space.



4-PIPE FAN COIL UNIT SCHEMATIC