

## **PERFORMING ARTS CENTER (1692)**

The Performing Arts Center was constructed in 1995 along with the Georgia Museum of Art and the School of Music. The facility houses a 1,200 seat auditorium, 360 seat auditorium, an orchestra rehearsal auditorium, offices and other support areas.

The air conditioning systems operate continuously. All systems utilize 2" MERV 6 pre-filters and MERV 13 bag filters. The building units are equipped with an air side economizer function that increases ventilation to provide free cooling when ambient weather conditions are appropriate. Ultraviolet lights are installed in the building air handling units functioning to inhibit biological activity within each unit. The units are scheduled to operate continuously, consistent with FMD's COVID-19 response plan.

The three auditoriums in the building are each conditioned by constant volume air handling units (AHUs) with chilled water coils, hot water coils, filters, and both supply and return fans. Each constant volume AHU delivers a steady supply of conditioned air to the space. The building return air is mixed with outdoor air, passed through a bank of filters and cooled or heated before being supplied to rooms throughout the building through above ceiling ductwork.

- AHU-P-1 supplies air with approximately 30% comprised of ventilation air from outside.
- AHU-P-2 supplies air with approximately 25% comprised of ventilation air from outside.
- AHU-P-3 supplies air with approximately 24% comprised of ventilation air from outside.

The office and support areas of the building are served by a single variable volume air handling unit that supplies a mixture of recirculated building air and fresh air from outside the building to these spaces.

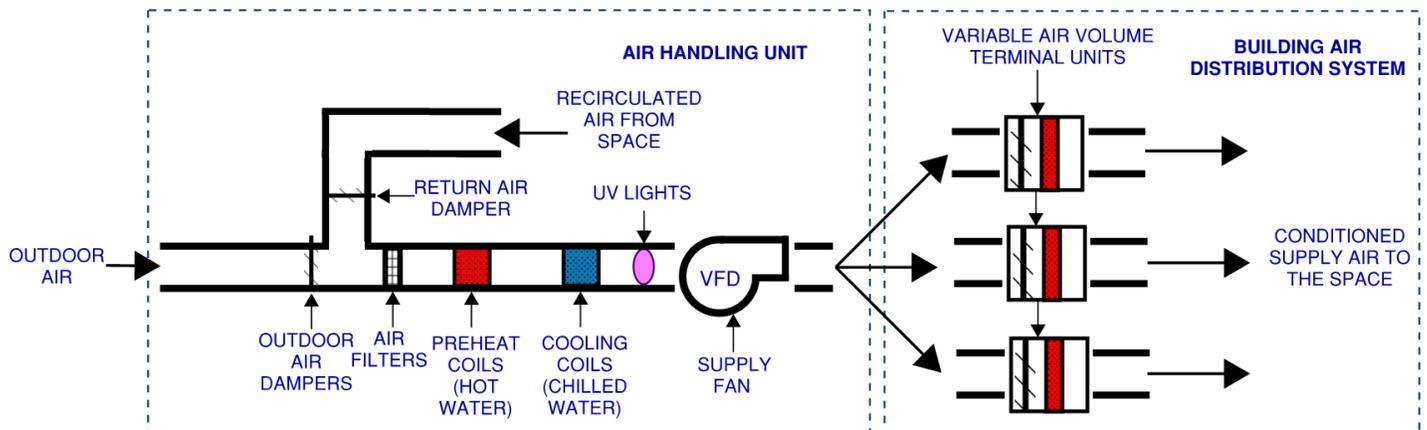
- AHU-P-4 supplies air with approximately 24% comprised of ventilation air from outside.

Chilled water is supplied throughout the building from a chiller plant located in the School of Music Building. Heating hot water for the building is supplied by two boilers in the School of Music Building.

## VARIABLE VOLUME AIR HANDLING UNIT (AHU P-4)

The Air Handling Units deliver a variable 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 mixed with outdoor air, passed through a bank of filters and cooled with chilled water coils in the building's air handling unit before being supplied to rooms throughout the building through above ceiling ductwork. The Variable Air Volume terminal units (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. Most of the VAVs also include a fan, an electric heating coil and a filter combination that will mix in air from the above ceiling plenum with the conditioned air from the central AHU when the space requires heating.

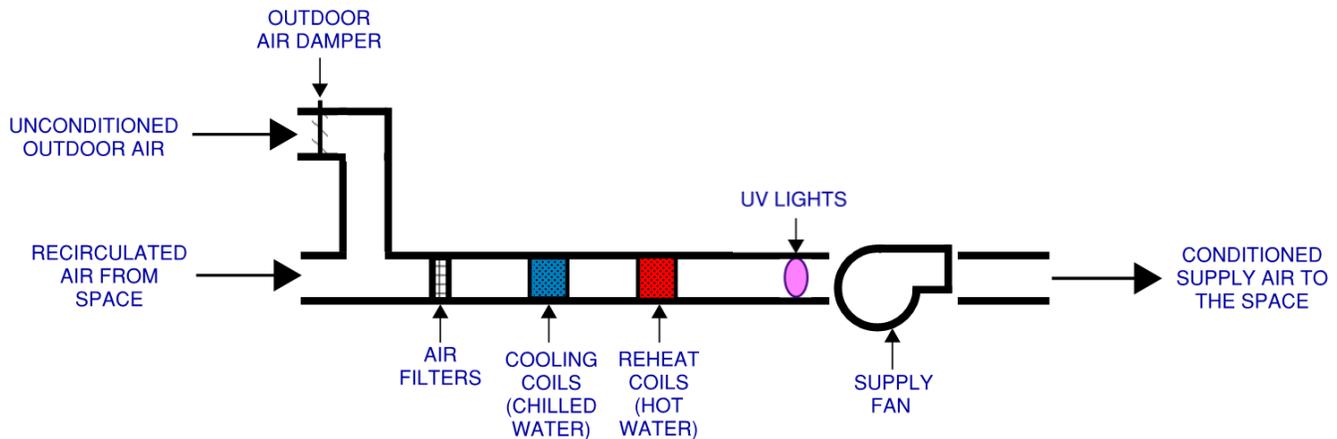
Air is recirculated from the spaces back to the air handling unit through ceiling mounted air return registers located in each space. Room air is returned to the central AHUs via the above ceiling plenum space. Exhaust is provided in restrooms on each floor.



**VARIABLE VOLUME AIR HANDLING UNIT SCHEMATIC**

## SINGLE ZONE AIR HANDLING UNITS (AHU P-1, P-2, P-3)

Each auditorium is served by a single zone, variable volume air handling unit (AHU). The variable supply air volume is composed of a mixture of recirculated air from the space and outside air included for ventilation that is filtered, heated, cooled or dehumidified before being supplied to the space. The unit maintains the space temperature by modulating the flow of chilled water and hot water to coils in the unit. The units also have the capability of operating in a dehumidification mode when relative humidity levels are elevated, by simultaneously cooling the mixed air and then reheating it to a moderate temperature before supplying the air to the auditorium.



**SINGLE ZONE AIR HANDLING UNIT SCHEMATIC**