AIR VALVES

DESIGN GUIDELINES

1. Summary:
    a. Small renovations in buildings with Phoenix valves and controls shall be specified to integrate with the existing system. For large renovations, discuss air valve design with WUSM Project Manager and Critical Facilities Manager.
    b. The use of Phoenix air valves shall be discussed and determined on a project basis. See Air Valve applications below for intended design on new buildings.
2. General
    a. There are four (4) versions of the Phoenix Air Valve product in use on WUSM campus and being maintained by WUSM Facilities.
        - Celerus 1
        - Celerus 2
        - Celerus 3
        - Celerus 4
    b. Air Valve applications
        - High-Speed- Air Valves are to be used on fume hoods because of their quick response time to pressurization changes when the fume hood sash is opened from a closed position.
        - Low-Speed -Tracking Pairs are typically used in laboratory situations for room pressurization without fume hoods. These Air Valves have a response time of 10-30 seconds.
        - New installations for Labs with Fume hoods shall include the Celerus 4 Phoenix air valves and controls. The controls shall have an MSTP BACnet interface to the building automation system for monitoring.
        - The building shall have a separate automation system. Phoenix front end system is not allowed.
        - The Phoenix space temperature sensors shall have LCD display and push button override.
3. Celerus 1:
    a. Pneumatic and receives a 0-10 vdc signal from the Building Automation System (BAS).
    b. The buildings that have Celerus 1 are:
        - Southwest Tower Fume Hoods
        - SIRF East
        - McMillan 11th Floor - BSL
4. Celerus 2:

a. High speed pneumatic valve with electronic controls for fume hoods and labs.
b. This system requires a Phoenix Gateway to communicate Information from the Phoenix Air Valve to the BAS.
c. The buildings that have Celerus 2 are:
    - McDonnell Pediatrics
    - CIR-2nd Floor
    - McMillan 7th Floor
    - South Building 1st Floor. (South Building has no Gateway)

5. Celerus 3:
    a. Electric actuator (Honeywell) valve, electronic controls and uses LON (Echelon) communication protocol as a means to communicate information from the valve to the BMS.
    b. The buildings that have Celerus 3 are:
        - BJCIH
        - COUCH (Basement)
6. Celerus 4:
    a. Air valves have an electric actuator (Honeywell), electronic controls and uses BACnet as a communication protocol as a means to communicate information from the Phoenix Air Valve via a MSTP (Master Slave Token Passing) bus of a BMS.
    b. All large renovations or new buildings with Phoenix valves shall have Celerus 4 Air Valve product installed.
    c. The buildings that have Celerus 4 are:
        - CSRB-North Tower (BSL 3)
        - McDonnel Pediatrics 8th Floor (BSL 3)
        - South Building 4th Floor
        - Couch
7. Related Sections:
    a. Environmental Health & Safety (EH&S)
    b. DDC Controls

EQUIPMENT AND PRODUCT REQUIREMENTS

1. Acceptable manufacturers
    a. Phoenix

END OF SECTION