



Massachusetts Eye and Ear Infirmary is an independent hospital specializing in the care and treatment of patients with disorders of the eyes, ears, nose, throat, head and neck.

Internationally acclaimed since its founding in 1824 by two young eye surgeons named John Jeffries and Edward Reynolds as a charitable eye clinic, Mass. Eye and Ear offers high quality and specialty care ranging from the routine to the very complex.

In addition, Mass. Eye and Ear is an international center for treatment and research and a teaching hospital of Harvard Medical School whose mission is to find cures for blindness, deafness and diseases of the head and neck.

Throughout its history, Mass Eye and Ear has led clinical advances and research resulting in numerous groundbreaking medical and patient care discoveries of new drugs, new techniques, disease causing genes and much more.

The facility for which the two air handling units were supplied was built in the mid-1970's and is one of multiple facilities throughout Greater Boston and Providence. The challenge for this AHU-29 & AHU-30 Replacement Project was how to increase the capacity with no additional floor space, limited access to the area, and structural cross beams in the way. The solution was to stack one unit on top of the other, despite having different air flow capacities, utilize knockdown construction for the top unit and design a way to encapsulate the cross beams. Adding to the challenge was the requirement that the units be designed to survive a seismic event and operate afterwards.

The lower unit (AHU-30) is 23,000 cfm and the top unit (AHU-29) is 40,000 cfm. AHU-30 was oversized to accommodate stacking AHU-29, so both had a foot print of 20'-6"L x 19'-0"W. AHU-30 is 5'-10"H while AHU-29 is 10'-7"H. Despite the lower height, the width of AHU-30 necessitated that the unit be split both perpendicular and parallel to airflow, resulting in 20 sections being shipped. Once AHU-30 was reassembled in-place, AHU-29 shipped. That unit was built at the factory, then disassembled and palletized for shipment. A Buffalo Air Handling service technician supervised the reassembly of the top unit and worked with the installing contractor to coordinate the accommodation of the cross beams.

After installation both units passed field leak tests that required the leakage rate to be less than 1% of the unit airflow capacity at 1.5 times the design static pressure, which, in this case, was 13.0" WG.

## Massachusetts Eye and Ear Infirmary Boston, MA

### **Equipment:**

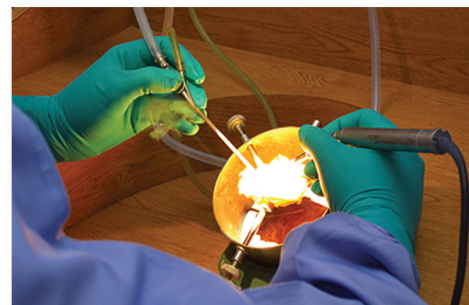
Buffalo Air Handling supplied two (2) custom indoor air handling units configured with a 40,000 cfm unit stacked on a 23,000 cfm unit. The units are 2" double wall construction with supply fans, heating and cooling coils, pre and final filters, dampers, humidifiers, and internal piping

### **Consulting Engineers:**

Engineered Solutions, Inc.

### **Mechanical Contractor:**

TG Gallagher



*Sales Engineers in cities  
throughout North America.*

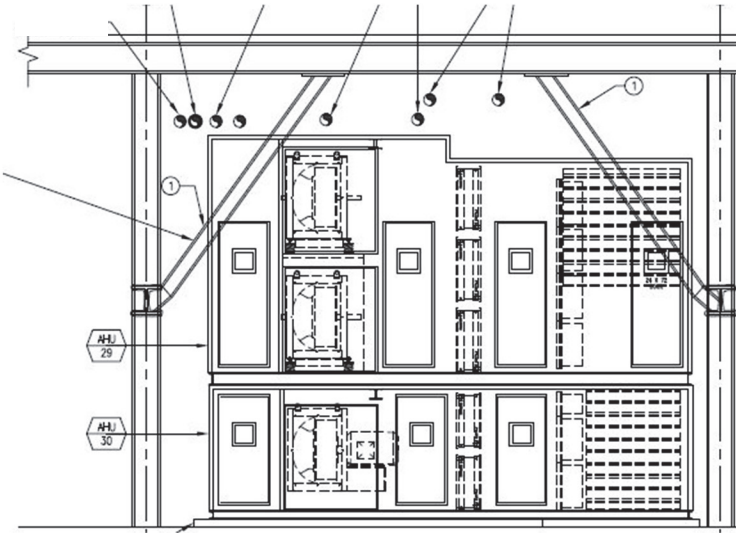
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# BUFFALO

## AIR HANDLING

# Hospital



### Sizes:

- (1) 23,000 CFM each
- (1) 40,000 CFM each

### Construction:

- 2" walls
- Injected polyurethane foam insulation
- .063" stucco aluminum exterior
- .063" smooth aluminum interior
- 6" structural aluminum base
- 3/16" continuously welded aluminum treadplate floor

### Components:

- Arrangement 4 plenum supply fans in parallel
- Premium efficient, TEFC motors
- Aerofin "ANF" heating coils, .0095" aluminum fins, .035" copper tubes
- Aerofin "W" cooling coils, .0095" aluminum fins, .035" copper tubes
- MERV 8 pre-filters
- MERV 14 rigid final filters
- Humidifiers
- Control and smoke dampers
- Access doors with thermal pane windows, and test ports
- Lights, receptacles, and three-way timer switches
- 120V and 460V single point wiring
- Extended coil and humidifier piping

