

## **Haakon and UW Hospital & Clinics, Healthier Buildings for Healthier People.**

UW Hospital and Clinics, is an entity of UW Health, which is comprised of the academic healthcare facilities of the University of Wisconsin – Madison. The hospital is a 566-bed facility located in downtown Madison. Recognized as a national leader in surgical specialties, UW Hospital looked for that same quality when the time came to replace its Air Handling Unit responsible for Surgical Operating Rooms 1-6. Masters Building Solutions teamed with UW Hospital to provide AHU-37A, a custom built Haakon unit.

Haakon was chosen for AHU-37A due to several highly custom features. The unit was required to have its supply and return air connections located on the same end of the unit. In order to accomplish this, AHU-37A was designed in a 'U' shape with a 9-foot service corridor down its center. This corridor provides access to each AHU section as well as a place for the piping, specialties, and controls. The corridor also contains a 3-foot by 3-foot access hatch allowing service personnel admittance to the space below the unit where the valves, traps, and condensate piping are located.

To help address snow intake issues during Wisconsin winters, the outdoor air intake section was custom designed. Custom Haakon storm louvers, drain pans, and custom intake ductwork within the air handling unit will keep the snow out.



(Above) The final section of AHU-37A, shown as it was lifted into place.

Quad Fans were applied to provide optimal efficiency, redundancy and sound. This technology is known as the "Green Fan Wall." To further boost fan efficiency gain and to add a static regain component, Aero Acoustic Diffusers were included on all fans. Up to 80% fan efficiencies are obtainable with this fan arrangement. Coupled with premium efficient motors, this is the most efficient fan system available.



(Above) Part of Haakon's "Green Fan Wall" Technology, yielding up to 80% efficient fans.

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(Above) The first two sections of AHU-37A are shown on its base. Section One contains the heating and cooling modules, followed by a humidifier, silencer, fans and final filters. Section Two is the service vestibule.

The supply air passes thru one of the most advanced carbon filtration systems on the market, thus ensuring the purity of the air sent to the operating rooms.

AHU-37A arrived at the job site on four semi-trailers; individually shrink wrapped to maintain the cleanliness of the product during transport. Each section was lifted to the roof and assembled in one day.

Air leakage testing was completed three days later and the unit passed easily. HEPA Filters have been tested and passed the hospital's stringent requirements for leakage.



(Above) The four sections of the unit are shown fully assembled and awaiting louvers.

AHU-37A was custom color matched to blend in with the surrounding buildings. To further enhance their patients' experience, UW Hospital is considering painting a mural on the side of the unit facing patient rooms.

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