



Rock Legends Play in Comfort with FANWALL TECHNOLOGY *Case Study*

POWERED BY HUNTAIR®
FANWALL
TECHNOLOGY®

The Joint at the Hard Rock Hotel & Casino in Las Vegas creates an unprecedented experience in a state-of-the-art concert venue. A \$60 million expansion that opened with Paul McCartney on April 19, 2009 has created one of the most sophisticated entertainment venues in Las Vegas.

When the mechanical engineering designers, FEA Consulting Engineers of Henderson, NV, were deciding on the right airside system to keep the top-notch talent comfortable in the Las Vegas heat, they turned to Mechanical Products Nevada, Inc. and to FANWALL TECHNOLOGY® by HUNTAIR, Inc.

FEA Consulting Engineers is known for providing exceptional mechanical, electrical, plumbing, and low voltage engineering services. They provided the mechanical engineering design for the Joint and meeting rooms as well as the hotel's North and Tower expansions, casino expansion, and pool expansion.

At a Glance

- The Joint is a state-of-the-art concert venue seating up to 4,000 at the Hard Rock Hotel & Casino, Las Vegas, NV.
- Eight air handlers powered by HUNTAIR® FANWALL TECHNOLOGY supply 142,500 CFM of conditioned air to the concert facility.
- Six air handlers powered by HUNTAIR FANWALL TECHNOLOGY supply 104,000 CFM of conditioned air to the meeting rooms.
- Supply and return fans inside air handlers are designed using multiple fan arrays to provide a reliable and low sound air supply.
- Multiple fan arrays consist of two to six fans providing reliability through redundancy. Redundant variable frequency drives for both supply and return fans ensure reliability and are used to vary air-flow.

The New Joint

The Hard Rock Hotel & Casino is a premier destination entertainment resort located on one of Las Vegas' fastest growing entertainment corridors. The original Joint concert venue opened in February of 1995. The Joint was the first rock 'n' roll venue in Las Vegas built at a high-end boutique property and has attracted top-notch performers.

The new Joint essentially doubled its original capacity to accommodate an audience of 4,000, and includes VIP hospitality suites and the latest in video, sound, and lighting systems. The new Joint's venue can serve a variety of purposes, from hosting concerts, wrestling, and boxing events to corporate or trade show events.

The Challenges

Low sound levels, reliability, and tight temperature control were high priorities to Vic A. Sibilla, PE, COO and Owner, FEA Consulting Engineers, in selecting the air conditioning system. Sibilla first learned of FANWALL TECHNOLOGY® by HUNTAIR® during a local touring showcase of technologies with Cory Nehls, VP, Mechanical Products Nevada, Inc. "I was so impressed when I first saw and heard the FANWALL® array running that I couldn't wait to find the right application. Engineers tend to be very traditional when it comes to "new" technology, but this equipment definitely made an impression," Sibilla commented.

Reliability and Low Sound

A visit to HUNTAIR's factory in Portland, OR, was arranged with a representative

from the hotel's engineering team, Sibilla and Nehls. Nehls commented, "We were all impressed with the quality of the FANWALL product at the factory, and had a chance to listen to a unit operating in the lab."

"The owner was drawn to the low sound and the low maintenance features of the FANWALL array, especially the fact that there were no belts to worry about or bearings to grease." Sibilla added. He went on to say, "The Joint can't tolerate any downtime or acoustical problems, especially during a performance, and the FANWALL direct drive fans were the best technology available to mitigate those risks."

Fast-track Project

With an April opening set, the air handlers were needed in a very short time and HUNTAIR provided a fast production cycle to keep the project on track. The job consisted of 14 HUNTAIR air



Factory wired control panels from HUNTAIR with redundant VFD drives for supply and return fans.

handlers: eight for the Joint concert area and six for the Joint meeting rooms. Air handlers ranged in size from 6,500 to 34,000 CFM.

Sibilla summed up the project by saying, "The owner is so impressed at how quiet these units operate that he wishes he could change out all of his fans at the hotel to a FANWALL array."



Nine-fan array of one of the 34,000 CFM HUNTAIR air handlers providing reliable airflow through redundant FANWALL cells.

Benefits of FANWALL TECHNOLOGY

- Increase uptime with fan redundancy
- Reduce maintenance expense with no belts or bearings to maintain plus commonality of parts between fan cells
- Lower sound levels eliminate sound traps and associated energy loss
- Eliminate expensive fan isolation or pads
- Reduce energy bill with higher fan efficiencies
- Lower connected load reduces electrical demand and backup generator size
- Gain back valuable real estate with smaller fan footprint
- Avoid demolition/cranes during upgrade
- Minimize system downtime during retrofit
- Technology supports the LEED® initiative for creating sustainable buildings



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