

Civic Center Music Hall

Oklahoma City, Oklahoma

Originally built in 1939, the historic Music Hall is a performing arts center in downtown Oklahoma City. Constructed of a very pale, fine-grained limestone, the building was a study in art deco and has been a focal point in the area for over seven decades. It now accommodates major theatrical, dance and musical groups.



CHALLENGE

- Major renovations were needed and the goal was to create an acoustically superior venue rivaling the best in the country while retaining the building's art deco character.
- Acoustic standards for ambient sound were set at PNC-15, an extremely low level equivalent to the sound level in a high-quality recording studio.
- It was believed that only custom air handlers could meet the acoustic standards for six of the 13 new air handlers needed.
- Audience comfort and ventilation was critical to the success of the renovation.



SOLUTION

- Trane consulted with the engineer and it was suggested to use the cataloged modular Climate Changer™ with special adaptations to meet the acoustic requirements.
- Working closely with Trane's Lexington Plant, a double-wall unit was recommended for all of the applications.
- To reduce sound transfer, a heavier gauge skin was used along with Trane's Enhanced Q-Fan™ with a built-in silencer.
- ARI 260 acoustical tests were performed during the design process on two of the most critical units and deemed to meet the criteria.



RESULTS

- Savings were realized by using a cataloged product with special adaptations to meet the acoustic needs instead of custom air handlers.
- Audience members comfort is improved. Complete climate control is achieved even with a full occupancy of 2,000.
- Performers rave about the acoustics.
- "When the acoustic performance standards for the air-handling equipment were set, we didn't think we could achieve it with cataloged equipment. Trane said they thought they could. We said, 'Prove it!' Well, they did."
- Consulting Engineer James Stewart