

## Vilter Reciprocating Compressors Drive the Refrigeration System of the Tulsa Expo Square Center Ice Arena

Tulsa Expo Square Center is a large, multi-use complex that includes an exhibition center, fairgrounds, amusement park, minor league baseball stadium, and water park. Located in Tulsa, Oklahoma, this venue hosts more than 400 events every year and features one of the nation's largest clear-span buildings for indoor sports, rodeos, and tradeshow. An expansion and renovation program is underway at Expo Square, including a complete restoration of the historic Pavilion and construction of an ice arena within the facility.

Since its construction in 1931, the Pavilion at Expo Square has been periodically upgraded to include new seating, locker facilities, and VIP and media rooms along with the latest lighting and sound systems. Depending on the type of event that is scheduled, the facility provides a total seating capacity of up to 6,500. Special event planners throughout the region have long recognized the Pavilion's reputation for being especially suitable for sporting events, meetings, and concerts, offering an extremely flexible arena that could be transformed from a horse show to a basketball court, and return to normal seating in a matter of hours.

In the past, traveling ice shows were required to bring their own portable ice making systems to the Pavilion because the facility lacked the apparatus to produce a suitable ice sheet. Expo Center management solved this problem during the Pavilion's latest round of improvements by installing a new refrigeration system,

driven by two Vilter 450 XL ammonia compressors, capable of first producing, and then maintaining, an 85' by 185' ice sheet on a 24/7 problem free basis from October through March.



The latest improvement at the Tulsa Expo Square Pavilion is this 85' x 185' ice sheet designed to accommodate figure skating shows as well as the local hockey league's games and practice sessions.



Vilter 450 XL reciprocating refrigeration compressors provide the durability and performance to maintain the Pavilion's ice sheet at exactly the right temperature, 24/7, month after month.

The Pavilion's refrigeration system chills a brine (calcium chloride), which is transported through miles of piping in the floor beneath the ice. The brine solution is sent out to the floor at +16.1° F and then circulates through the piping. The ice sheet

is built up in layers and takes approximately three days to complete.

Once installed, the ice sheet remains frozen and it is protected by an insulated, removable utility floor when other activities are scheduled for the Pavilion.

According to Tulsa County Public Facilities Authority Engineer, Sam Mieir, maintaining precise temperatures is a critical performance requirement of the refrigeration system. Mieir observed, “There are different qualities of ice and we have to find the ideal temperature to produce and maintain ice that is a compromise between being too hard and too soft. No one can skate well on soft ice, and yet we would receive many complaints if the ice was too hard. That’s why we have to find and precisely maintain just the right temperature.”

Vilter’s 450 XL ammonia reciprocating compressors offer several key advantages in ice arena applications. The ammonia is less expensive and more efficient than fluorocarbon refrigerants, thereby saving money. The compressor is time proven, simple to operate and highly reliable; Vilter reciprocating compressors have been known to last for over 50 years. The compressors installed at the Tulsa Expo Square Pavilion feature the Vantage touch screen™ Micro-Controller, which was developed in Windows CE™ utilizing Think and Do™ software for user-friendly operation, ease of custom programming and maximum flexibility.



For more than seven decades, the historic Tulsa Expo Square Pavilion has been the venue of choice for the region’s meetings; concerts; horse shows; and more recently, hockey and figure skating events.

Compressors for the Expo Square Pavilion were provided by Pace Industrial Incorporated (formerly Commercial Refrigeration, Inc.), a distributor for Vilter Manufacturing Corporation. Pace Technical Sales Representative Brian Hewlett stated, “We selected Vilter 450 XL compressors for this project because of their outstanding reputation and reliability. These compressors adapt beautifully to

being packaged on a built-up plant or skid. And Vilter’s assembled, skid-mounted refrigeration equipment ensured superior trouble free quality.”

Commenting on Vilter’s trouble-free performance and reliability, Sam Mieir

stated that to date serviceability has never been an issue with the compressor system. “We’ve never done anything to the compressors other than checking oil, keeping it at the proper levels, and making sure that everything’s doing what it should do. The Vilter compressors function like they should — there’s no fanfare, just performance.”

