Manitoba Hydro is the major energy utility for the province of Manitoba. The company completed a new headquarters in downtown Winnipeg in 2009. A truly groundbreaking building

Price played an integral role in making Manitoba Hydro Place—“Arguably the most energy efficient large building in North America.”

– Architectural Record

in terms of energy efficiency, Manitoba Hydro Place is seeking LEED Platinum certification and has earned multiple engineering and architectural awards, including the 2010 AIA/Cote Top Ten Green Projects award.

A major component of the building’s sustainable design is the use of passive HVAC systems, including displacement and natural ventilation. Customized Price DF1R displacement ventilation diffusers were installed in the building’s gallery to provide energy efficient ventilation and improve air quality.

Project Summary

LEED Platinum Certified

PRICE PRODUCTS
Displacement Ventilation

PROJECT HIGHLIGHTS
Location: Winnipeg, Manitoba
Project Type: Commercial, New Construction
Project Cost: $278 Million
Year Completed: 2011
Square Footage: 695,250 ft²

DESIGN TEAM
Architects: KPMB Architects and Smith Carter
Mechanical Engineer: AECOM
Price Representative: E.H. Price Sales, Winnipeg
Energy/Climate Engineer: Transsolar
The Solution:

Seamless Integration & Superior Energy Efficiency

A ventilation system that would condition only the occupied zone and contribute to the design vision of the building was the best option for the Manitoba Hydro Place gallery. This made Price displacement ventilation a natural choice.

Displacement ventilation results in room air stratification causing warm, contaminated air to collect at high levels outside the occupied zone. This has the dual benefit of improving air quality and saving energy in spaces with high ceilings, like the Manitoba Hydro Place gallery. The displacement system does not condition the air above the occupied zone, resulting in reduced supply air volume and fan power energy savings.

In addition, the displacement system assured the design team superior indoor air quality due to stratification, while also ensuring occupant comfort due to the low supply air velocity inherent of displacement ventilation.

The design architects at KPMB emphasized the fact that since displacement diffusers are at eye-level, and not in the ceiling, they must fit into the architectural design vision for the gallery. To meet this criteria, Price supplied customized black DF1R diffusers that were recessed into the wall and featured false corners so the diffuser had no breaks from one end of the room to the other.

The result was diffusers that not only integrated into the architect’s design, but also contributed to it, while also contributing to the energy efficiency of a building that Architectural Record described as “arguably the most energy efficient large building in North America.”

1Linn, C. (2010, October 13). Innovation 2010: is Manitoba Hydro the most energy efficient building in North America? Architectural Record.
The DF1R is a unique diffuser designed to deliver air into spaces from relatively hidden locations. Having no visible fasteners, the DF1R can be discreetly installed in stair risers, in a wall at floor level or in a toe kick, making it ideal for classrooms, theaters, and lobbies. The DF1R has an easy press-in face that is securely retained with mounting clips.

Manitoba Hydro Place was identified by Architectural Record as being “Arguably the most energy efficient large building in North America.”

The high ceilings in the atrium make displacement ventilation a natural choice, resulting in improved indoor air quality and thermal comfort delivered in an energy efficient manner.
Design Team Profile

KPMB Architects

KPMB Architects is known for its consistency of architectural excellence through a diversity of project experience. Founded in 1987, KPMB won two major competitions for large-scale institutions in its first few years of practice, Kitchener City Hall and the Queen's University Library. This work, along with a number of other projects, rapidly established the firm’s reputation for high design and production standards.

Smith Carter Architects and Engineers

Smith Carter Architects and Engineers of Winnipeg was named as Executive Architect for Manitoba Hydro Place in 2004. Working closely with the design architect, Smith Carter translated design intent into the technical details required for construction, and coordinated the production of sequential bid document packages. This was all accomplished while managing a geographically diverse design team, pursuing aggressive quality objectives, and adhering to a fast-track delivery schedule.

Transsolar

Transsolar of Germany was chosen as the energy and climate engineer. Transsolar is the world’s foremost climate engineering firm, drawing on engineering principles and a range of climate and energy considerations to influence design. The firm is internationally recognized for its approach, which strives for the highest possible comfort in the built environment with the lowest possible impact on the environment.

AECOM

AECOM is known internationally for their sustainable and holistic design approach, which embraces low-carbon and economic operational performance. AECOM provided mechanical and electrical engineering services for Manitoba Hydro Place, including fire protection, plumbing and heating, and uninterruptible power system design.