



Piqqusilirivvik: Inuit Cultural Learning Facility

Clyde River, Nunavut

Price Displacement Delivers Superior Indoor Environmental Quality in Canadian Arctic

Project Summary

Project Type: New Construction – School

Project Cost (construction cost): \$22 million

Year Completed: 2011

Building Square Footage: 23,680 ft²

Price Products Used:

DLE – Displacement Linear Enclosure

DF1 – 1 way Displacement Diffuser

DR180 – 180° Displacement Diffuser

Engineer/Architect: FSC Architects and Engineers

Price Representative: E.H. Price Sales, Edmonton

Located on the northeast coast of Baffin Island in the remote northern Canadian territory of Nunavut,

Piqqusilirivvik: Inuit Cultural Learning Facility is an educational facility that promotes cultural preservation, enhancement and excellence for the Inuit people.

This unique educational facility includes two residential wings for 27 live-in students from all over Nunavut as well as the core learning center which features a central gathering space in addition to specialized spaces for small group gathering.

A building such as this provides design challenges from an air distribution perspective. The design team at FSC Architects and Engineers had prior experience with displacement ventilation, and chose to employ it throughout the cultural learning facility to address energy efficiency, thermal comfort and indoor air quality demands.

See why Price is the supplier of preference for clean air solutions.
Visit price-hvac.com/green or call 1.866.430.0969 today.

PRICE[®]

Piqqusilirivvik: Inuit Cultural Learning Facility

Clyde River, Nunavut

The Challenge: Air Quality, Comfort, and Energy Efficiency

The benefits of high indoor environmental quality, including high ventilation effectiveness and low noise levels, in an educational facility are well established. FSC sought to produce such an environment to maximize the learning potential of the students. In addition to the students, Inuit elders would reside in the facility to serve as educators. FSC's previous experience working in Northern Canada had indicated that Inuit elders could be particularly susceptible to mechanical noise and drafts, thus avoiding these conditions was imperative.

The learning facility was designed using a traditional wood construction, and FSC was reluctant to compromise this aesthetic with mechanical equipment, including overhead ducting. A ventilation system that could fit subtly into this

wood construction would be preferred.

Finally, energy efficiency in the ventilation system was critical. Given the remote, off-the-grid location of Clyde River, utility costs are very high, therefore achieving utility savings through the HVAC system was of critical importance.

Design Team Profile

FSC Architects and Engineers (FSC) is a professional consulting practice with a special interest in cold climate and remote location architecture & engineering projects. FSC's multidisciplinary teams provide services and expertise within architecture, mechanical, electrical, civil/municipal, structural, and environmental engineering.

FSC's architecture and engineering services are about creating environments for people to live, work, learn, care, protect, play, and grow within.

The project was reliant on sporadic northern shipping schedules, making short product lead times of added value.



See why Price is the supplier of preference for clean air solutions. Visit price-hvac.com/green or call 1.866.430.0969 today.

PRICE[®]

Piqqusilirivvik: Inuit Cultural Learning Facility

Clyde River, Nunavut

Price Solution:

Diffusers Integrated into Traditional Design to Save Energy and Improve IEQ

In order to achieve the indoor environmental quality, thermal comfort and energy savings required in the space while also integrating the HVAC system into the architectural design, FSC chose to employ Price displacement ventilation. Displacement was utilized throughout the learning center core to provide ventilation and cooling via a 100% outdoor air, CO₂ demand control ventilation system.

FSC was familiar with the benefits offered by displacement systems, but particularly drawn to Price's unique ability to integrate diffusers into the design of the space and to produce field labor savings through straight-forward installation procedures. Price offered all this at a competitive cost and with the shortest lead time – critical given the tight deadlines and its dependence of the project on intermittent Northern shipping schedules.

With the implementation of Price's displacement diffusers, the goal of producing a quiet, comfortable learning space with superior air quality was achieved. In addition, since displacement only conditions the occupied zone, FSC was able to design the system with reduced fan horsepower, contributing to valuable energy savings.

FSC was also able to coordinate with Price's Edmonton sales office for technical support throughout the project, taking advantage of Price's industry-leading applications support team, and toured Price Research Center North – Price's cutting-edge HVAC laboratory in Winnipeg – cementing their choice of Price as the supplier of preference for displacement ventilation.



Price displacement ventilation diffusers were able to integrate subtly into wooden columns in the gathering area - eliminating the need to route ductwork overhead and preserving the natural aesthetic.

See why Price is the supplier of preference for clean air solutions.
Visit price-hvac.com/green or call 1.866.430.0969 today.

PRICE[®]