

North America's first cultural center with interactive exhibits, performance halls, and studio space

NEW HOME IN 2016

Canada's National Music Centre (NMC) moved ten blocks from Victoria Park to Calgary's East Village neighborhood in 2016. This was three years after the Bow River spilled its banks in the Alberta Flood of 2013, engulfing Calgary's central business district and topping out at nine rows above ice level in the Saddledome, home of the Calgary Flames.

While some of the artifacts intended for display in the new NMC sustained water damage in Victoria Park, the new Centre's most treasured artifacts escaped the flood by being above high water or away from Calgary in 2013.

Studio Bell, home of the new NMC, opened on Canada Day, July 1, 2016.

CONSISTENT RELATIVE HUMIDITY A CHALLENGE IN CALGARY

Born of a desire to keep narrow escapes in the past, artifact preservation is a high priority for NMC personnel. Consistent relative humidity (RH) and temperature are two environmental variables critical to material preservation. According to the Canadian Conservation Institute, fluctuating RH can cause biological, chemical, and mechanical damage to materials in museums.¹

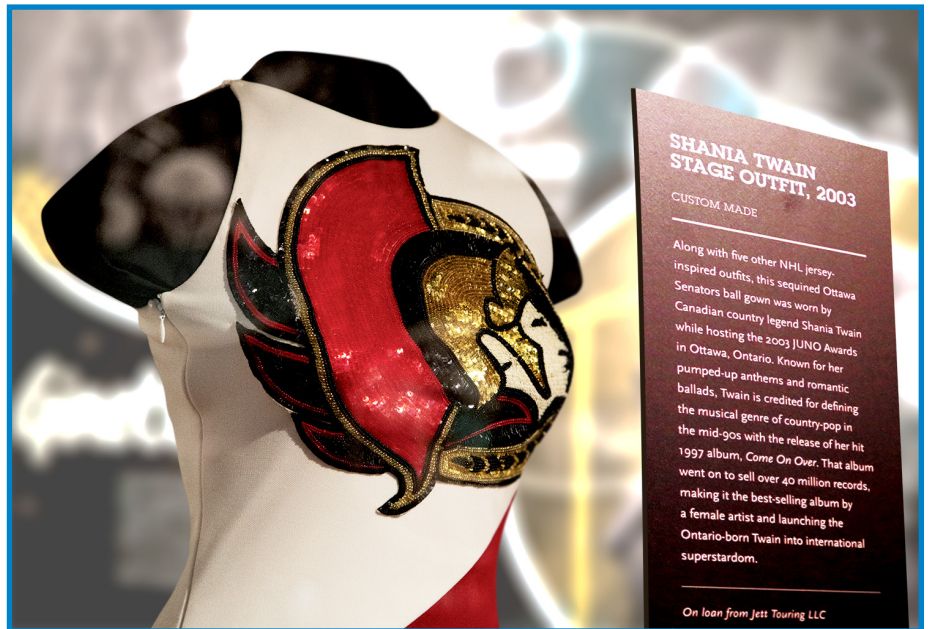
Maintaining consistent RH is a two-fold challenge in Calgary. First, the Rocky Mountains just west of the city strip the prevailing air currents (Calgary's famous Chinook winds) of their moisture, so it is mostly dry from November to May. Ambient design conditions are -31 °C (-24 °F) and 10% RH. Second, the Chinook winds are not constant. A slight change in wind direction can cause drastic changes in temperature and moisture levels, both of which affect RH.



At five stories and 160,000 square feet, Studio Bell dwarfs the 100-year-old King Edward Hotel. The "King Eddy" was scheduled for demolition in 2004, but it was saved in a brick-by-brick restoration and is now a feature of the NMC.



Country music sensation Shania Twain hosts Canada's JUNO Awards (REUTERS/Reuters Photographer – stock.adobe.com)



Shania's sequined Ottawa Senators ball gown on loan to the National Music Centre for display in the Canadian Country Music Hall of Fame Collection



Terry Elliott, NMC Building Operator, and the legendary Rolling Stones Mobile Studio, the only existing mobile recording studio during its heyday in the 1970s. Many bands recorded studio albums and epic performances on the Helios mixing console in this truck. Among them, Dire Straits, Deep Purple, Fleetwood Mac, Led Zeppelin, Iron Maiden, and the Rolling Stones themselves.

RESOURCES:

Find your local DriSteem representative:
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DriSteem's GTS gas-to-steam humidifiers:
[Gas-to-steam humidifiers](#)

More about the National Music Centre:
[Studio Bell National Music Centre](#)

DRI-STEEM Corporation

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One of the NMC's most famous collection items is The Original New Timbral Orchestra (TONTA). Stevie Wonder's Grammy-winning *Innervisions* album was produced on this multi-player analog synthesizer, the largest instrument of its kind in the world.²

GTS HUMIDIFIERS IN EIGHT AIR HANDLERS

Eight DriSteem GTS[®] gas-to-steam humidifiers generate the principal steam supply for the whole building. Steam was chosen because it is clean; in fact, steam is the purest form of humidification. GTS humidifiers were chosen for their energy savings, reliability, and high capacity.

"That's why we have a GTS humidifier for each air handler," confirms NMC Building Operator Terry Elliott. "The air handlers branch off to ducts that maintain a variety of RH levels in the spaces. Some are performance halls, some are recording studios, and there are interactive and static displays everywhere."

The GTS humidifiers produce steam for the supply air in the air handlers. Downstream in the ducts, small air conditioning units with built-in trim humidifiers produce steam for separate spaces in the NMC.

COORDINATED CALLS FOR STEAM

The building automation system calls for humidification from the GTS humidifiers based on the RH of the supply air in the air handlers. Separately, the system calls for humidification from the trim humidifiers based on RH in the NMC's finished spaces. This coordinated call for massive amounts of steam from the GTS humidifiers and small amounts of steam from the trim humidifiers enables the building automation system to monitor RH in dozens of spaces and respond to both large and small changes in the need for humidification year round.

As Canada's music halls of fame induct new members and bands, artifacts continue to pour into the collections at the NMC. In 2018 the Centre received over 300 new donations and negotiated more than 450 loans of instruments, sound equipment, stage outfits, and other artifacts. A big reason for donors' willingness to part with their irreplaceable artifacts is that they trust the NMC to keep its collections well preserved. DriSteem is privileged to meet the humidification demands of a large venue filled with priceless artifacts in a challenging climate.

1. Grattan, David and Michalski, Stefan. *General Care and Preventive Conservation*. Government of Canada. September 11, 2017: <https://www.canada.ca/en/conservation-institute/services/preventive-conservation/environmental-guidelines-museums/general-care-preventive-conservation.html>

2. Wildon, Lisa. *TONTA Week at the National Music Centre: Celebrating the Holy Grail of Synthesizers*. NUVO Magazine. November 11, 2018: <https://nuvomagazine.com/culture/tonto-week-at-the-national-music-centre>