

## CASE STUDY: SCHOOLS

**Project Name:** Madison and McKinley Elementary Schools  
**Location:** Fargo, ND  
**Type:** School

Madison and McKinley are two elementary schools in Fargo, ND. The schools were built in the 1960's with similar floor plans and identical East-West exposures. Both schools were remodeled in 2014 with the same HVAC systems and brands of HVAC equipment to ensure that all buildings in the district have optimal heating and cooling capabilities. The chiller located in Madison Elementary is a nominal 75-ton capacity and the chiller located in McKinley Elementary is a nominal 70-ton capacity. This slight chiller difference favors the ethylene glycol system in this side-

by-side KWH energy consumption comparison of the two-air cooled scroll compressor chillers.



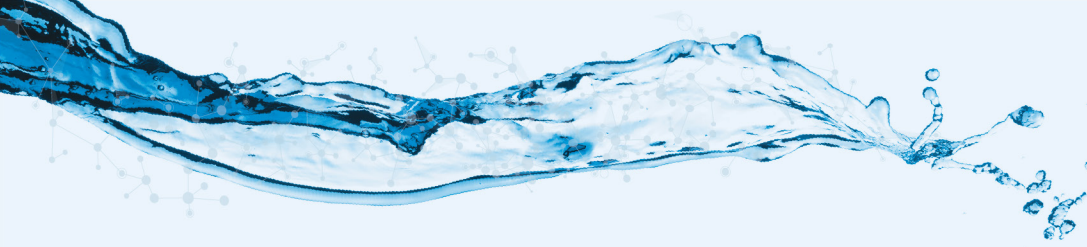
Madison Elementary School located in Fargo, ND replaced 35% ethylene glycol in exchange for 50% Hydromx heat transfer fluid.

**Challenge:** Fargo Public School Facility Managers are always looking for innovative ways to save energy, reduce carbon emissions and save on utility bills. Hydromx was the best option on the market to achieve the desired results.



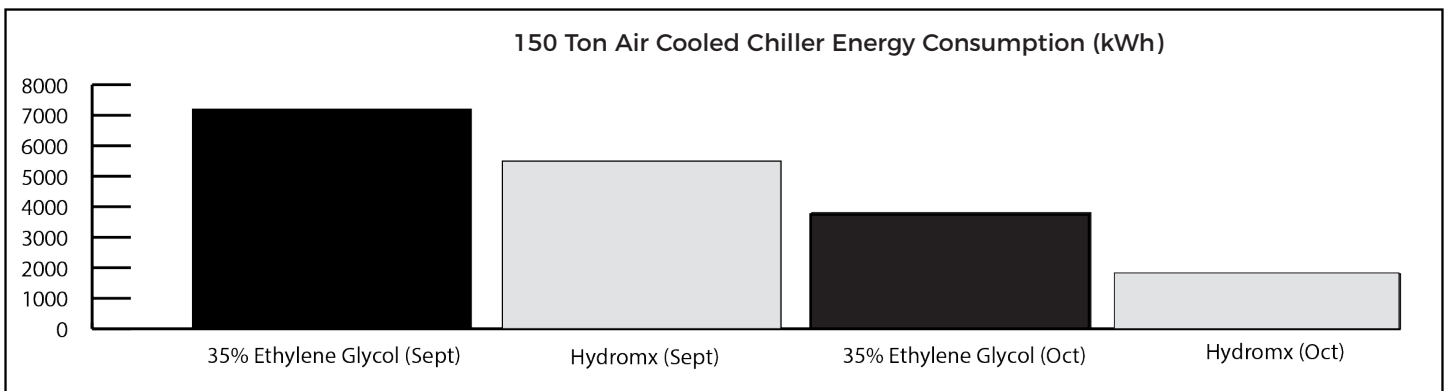
McKinley Elementary School also located in Fargo, ND remained unchanged with 35% ethylene glycol.

**Solution:** In August 2017, Madison and McKinley Elementary agreed to measure the energy savings of the Hydromx® nano-technology heat transfer fluid side-by-side with ethylene glycol. The heat transfer fluid in the chilled water system in Madison Elementary School was changed from 35% ethylene to 50% Hydromx. Meanwhile, the chilled water system in McKinley Elementary School remained unchanged with 35% ethylene.



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The graph below indicates the energy consumption difference between the, slightly smaller, McKinley Elementary chiller with 35% ethylene glycol and the, slightly larger, Madison Elementary chiller with 50% Hydromx.. This comparison shows a 23% energy savings in September and a 54% energy savings in October by using Hydromx.



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In conclusion, both Madison and McKinley Schools are excited to see the results of Hydromx and the efficiencies it could have on the other properties located within the Fargo Public School Systems.

### About Hydromx

Hydromx is a nano-technology heat transfer fluid that saves a significant amount of energy. Hydromx's propylene glycol outperforms not only other glycols, but it also outperforms water by minimum of 20%.

Hydromx has been proven in multiple installations to save 20-35% energy in heating and cooling systems around the world. The energy savings of the HVAC equipment is thanks to Hydromx's innovative, nano-thermal-technology that increases its thermal diffusivity (rate at which the fluid absorbs and releases heat) and surface area. Hydromx is 100% safe. It recently received NSF's incidental food contact "HT-1" category registration. This first installation showed a 25% energy savings and ROI in less than 3 years. Since that time, Hydromx has been used worldwide to save energy in heating and cooling systems.

For more information, visit [www.hydromx.com](http://www.hydromx.com)