

Retrofit of cabinet coolers cut energy costs by more than 50 percent

Industrial facilities prove to be a challenging environment to keep critical electronic circuitry safe and sound as well as cool and dry. So, how do businesses improve on cabinet cooler energy efficiency while not sacrificing operations? They turn to Focus on Energy, Wisconsin's statewide program for energy efficiency and renewable energy. Take a look at how Focus introduced Neenah Foundry to an emerging technology that cut energy costs while not compromising production or profitability.

CHALLENGES

Neenah Foundry has 68 cabinet coolers that run non-stop and use \$204,000 worth of compressed air a year to operate. Hoping to lower this hefty price tag, Neenah Foundry partnered with Focus to lower these costs while keeping the following goals in mind:

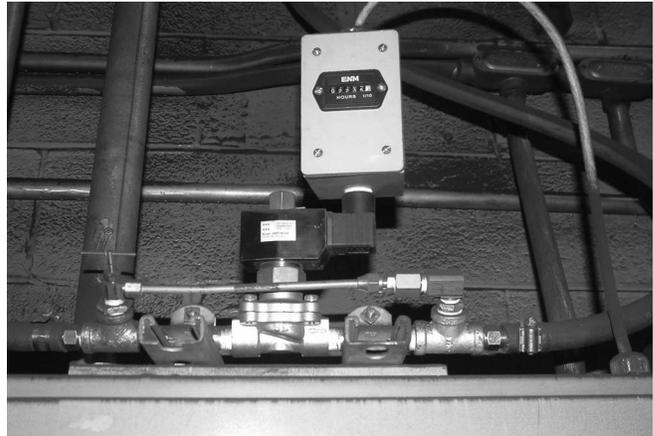
- Maintain minimum safe cabinet temperature requirements.
- Keep cabinet interiors dust-free.
- Do not increase maintenance needs.

"Focus found an innovative energy-saving solution," said Keith Rushford, electrical engineer at Neenah Foundry. "We are realizing the benefits every day."

ACTIONS

Focus had a hunch Neenah Foundry would be an ideal candidate for an emerging technology—thermostatically controlled cabinet coolers with an integrated purge function.

Before moving forward with implementation, Focus conducted a study to determine the viability of this and other cooling technologies. Heat pipes and refrigeration technologies were also compared as alternative solutions. Focus and Neenah Foundry ultimately agreed that retrofitting the existing vortex cabinet



Thermostatic control with purge function.

Neenah Foundry Founded: 1872

Profile: Neenah Foundry is located in Neenah, Wis. The foundry produces metal castings such as complex machine parts and municipal castings (e.g., grates, manhole covers, and tree grates along city sidewalks). You've likely seen their stamp on manhole covers around the country.

Website: nfco.com

coolers would be the most cost-effective energy-saving option. Neenah Foundry took advantage of Focus' emerging technology energy-based financing options and retrofitted 30 cabinet coolers.

RESULTS

The retrofitted vortex cabinet coolers use a small amount of purge air to maintain positive pressure within the cabinet at all times, but they only use full air flow when the thermostat calls for cooling. The electronic thermostat operates just like a standard programmable thermostat, activating only when the temperature inside the cabinet rises to a certain level preventing the cabinet coolers from needlessly running at full flow.

For more information,
call 800.762.7077 or visit focusonenergy.com.

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Neenah Foundry saw a complete return on its investment in less than six months. Each retrofitted cabinet cooler now costs \$930 per year to operate versus \$3,000. Neenah Foundry's total energy savings will surpass \$141,000 per year. Realizing the significant energy savings from the initial implementation, Neenah Foundry later purchased controls for the remaining 38 cabinet coolers.

"Financial incentives and technical assistance from Focus allowed us to initially move forward with this project," said Rushford. "This project paid for itself so quickly, we were able to invest in more cabinet cooler retrofits on our own."

BOTTOM LINE

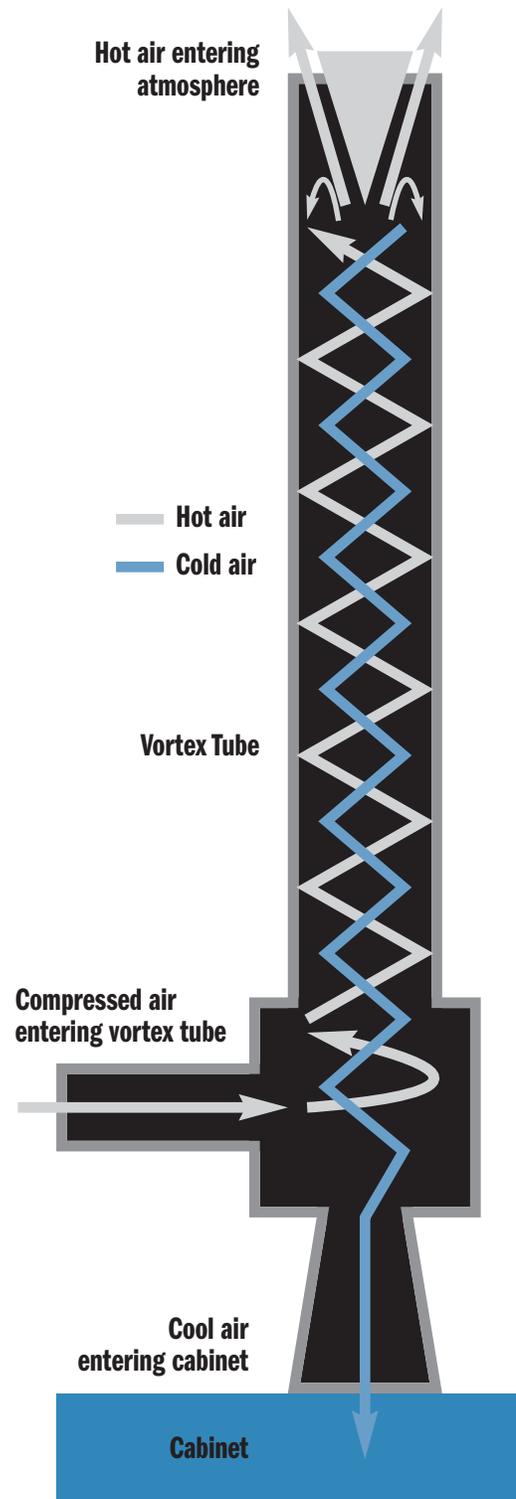
Neenah Foundry met all three of its goals: maintaining safe equipment, reducing energy costs, and keeping maintenance needs the same.

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With help from Focus on Energy, Wisconsin businesses are saving millions of dollars annually in energy costs. To learn more call Focus at **800.762.7077**, visit focusonenergy.com, or email emergingtech@focusonenergy.com.

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The above diagram demonstrates the air flow of a vortex cabinet cooler. It separates compressed gas into a hot air stream and a cool air stream. The hot air is vented to the atmosphere while the cool air is routed to the cabinet.

Focus on Energy works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. Focus information, resources, and financial incentives help to implement projects that otherwise would not be completed, or to complete projects sooner than scheduled. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment, and control the state's growing demand for electricity and natural gas. For more information, call **800.762.7077** or visit focusonenergy.com.

