

Local manufacturer maximizes energy use with new technology



The centrifugal fan evenly distributes warm air from the compressor room.

Smart energy solutions from project identification to implementation



Project description:

Air compressor heat recovery custom project



energySMART incentives:

\$122,634 in total incentives



Energy savings:

94,334 therms saved

While Illinois companies compete with manufacturing industries across the globe, American NTN Bearing Manufacturing Corporation (American NTN Bearing) differentiates itself with a competitive edge. Located in Elgin, Illinois, American NTN Bearing maintains a successful bearing and hub production facility. The business teamed with energySMART, a Nicor Gas program, to save energy and money with customized equipment upgrades.

American NTN Bearing participated in a free energy opportunity assessment to help find inefficiencies within their business and discover financially responsible ways to improve. The assessment included custom recommendations and an actionable plan to help improve their facility.



The project

The local manufacturing site struggled to provide heated ventilation air to the production floor during winter months. Six air compressors were located in an adjacent utility room that could be viable sources of recoverable space heat. The compressors were isolated from the main production floor by walls and energySMART identified the energy-saving potential from recovering the fresh, heated air in the compressor room and ventilating that air onto the production floor utilizing a centrifugal fan and a duct sleeve. The on-site opportunity assessment measured the air compressor motor power and estimated the amount of recoverable heat from this project.

Once the opportunity assessment was complete, an energySMART engineer presented a clear solution to fix the airflow system that was tailored to the facility's financial and operational needs. American NTN Bearing worked with Tessororf Mechanical, their dedicated contractor of 20 years, to install the customized airflow system. Their facility now benefits from a thorough system of fans and duct sleeves that distribute waste compressor heat to the production floor.



How American NTN made it happen

The equipment, energy and ROI analysis from the assessment provided the data American NTN Bearing needed to move forward with the recommended airflow improvement project. With custom incentives and a short project payback period of five years, American NTN Bearing management decided to implement the custom airflow system. Their business received a base incentive of \$94,334 and an early action bonus incentive of \$28,300 (30% of the base incentive) for participating in the opportunity assessment study, resulting in a grand total of \$122,634 in energySMART incentives.

The heat recovery from their air compressor replaces the equivalent of 94,334 therms per year of natural gas. This is the equivalent of 500 tons per year of reduced greenhouse gases or 410 acres of US forests.

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The experience

The custom airflow system now produces reliable ventilation and energy savings. By pairing opportunity assessment insight with financial incentives, American NTN Bearing has increased their facility value significantly with the advanced airflow system. The business enjoys the financial benefits of reduced energy bills along with improved air quality, safety and employee comfort. American NTN Bearing continues to discover ways to optimize its energy use and plans to implement a similar heat recovery project at a neighboring production facility.

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