transformativewave CATALYST

Maine Machine Products
Case Study

MAINE MACHINE PRODUCTS COMPLETES ROOFTOP-UNIT & LED ENERGY EFFICIENCY UPGRADE PROJECT THAT LEADS TO $110,000 IN ANNUAL ENERGY SAVINGS

Maine Machine Products (Maine Machine) is a precision machining company that services markets in semi-conductor, oil and gas, defense, and commercial aerospace. Being in Maine, they experience a wide range of seasonality, with warm and humid summers as well as cold and snowy winters.

Maine Machine works with industries that have very low tolerances for error. Things like temperature and humidity can have enough of an impact on the machinery and materials they use to affect the overall quality of their work. The aim is to keep the temperature in the range of 68° and 72° year-round to minimize environmental interference.

Maintaining that set temperature can require a lot of energy, though. Like most manufacturing facilities, Maine Machine was using constant volume rooftop-units to serve the heating and cooling needs of the space. Since they were looking to reduce their energy consumption, as well as their lighting, they were prime targets for an energy efficiency upgrade project.

HVAC ROOFTOP-UNIT RETROFIT

One of our most popular solutions, the CATALYST System is a complete upgrade solution that for Maine Machine, was projected to deliver a 40-50% reduction in HVAC energy use.

The CATALYST system saves energy in multiple ways. The first essentially moves the system from an “on” or “off” system to one that allows the fan to run at varying speeds. By using a variable frequency drive, the HVAC unit is able to minimize energy use when the conditions are right.

Second, the system can monitor and adjust the ventilation based on the demands of the space – a process called demand controlled ventilation. This reduces the need to draw in outside air that needs conditioning when it is not required by the needs of the space.

Third, the system draws in outdoor air whenever possible for cooling, therefore it’s only conditioned when required. If the outside air is cooler than the inside, the system takes advantage of the free cooling, which saves energy.

LED LIGHTING RETROFIT

LED lights save energy, and in a facility as large as Maine Machine’s, the savings can be huge and go beyond just energy savings. LED lights use a fraction of the energy of other lighting systems and produce far less heat (further reducing the load on the cooling system).

They also require far less maintenance, so instead of having to replace a fixture every 18 months or so, an LED fixture won’t need servicing for 10 to 15 years.

OPERATIONAL SUMMARY

By packaging both the HVAC and lighting upgrades, Maine Machine cut energy consumption and slashed their operational costs. These efficiency upgrades led to savings of over $110,000, which had a huge impact on profitability and competitiveness.

Along with the utility rebates available in their area, they were able to achieve these dramatic savings in just a 1.25 year payback.

Contact Transformative Wave today to see how we can help you modernize your facility and start saving.

“It’s very expensive to do business in the state of Maine, and the opportunity for us to manage [our] power and utilities makes us more competitive. We’re really pleased with the results. We’re actually exceeding original expectations.”

John Brocke
President & CEO
Maine Machine Products

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