


Terumo Medical Corporation

**MANUFACTURERS |
HEATING AND COOLING**



Jonathan Pusey, lead HVAC technician at Terumo Medical's Elkton facility, oversaw the plant's energy-efficient upgrades.

An energy-efficient remedy for an ailing HVAC system

As one of the world's leading medical manufacturers, Terumo Medical Corporation has produced innovative devices for health care professionals and their patients at its Elkton, Maryland, site since 1987. Like numerous other companies with aging plant infrastructure, Terumo knew the time had come to replace its dated HVAC equipment with systems that were more efficient, flexible, and cost-effective.

The Opportunity

Timing is everything, and that was certainly true of Terumo's Elkton plant facility upgrade. When Delmarva Power reached out to Terumo to talk about its latest energy incentives, the Elkton engineering team already had plans in place to make the financial investment needed for the upgrade and was ready to hear more. Without missing a beat, Delmarva Power went to work connecting Terumo with the right personnel and consultants to help evaluate the facility, make recommendations, develop estimates, and navigate the rebate application process.

The Upgrades

With help from Delmarva Power over the past two years, Terumo managed to take significant steps toward optimizing its plant's efficiency. For starters, it transformed its compressed air system by replacing its original five fixed-speed air compressors with two variable frequency drive (VFD) models. And then to enhance the performance of its new compressors, it replaced its four refrigerated air dryers with a new high-efficiency heated desiccant air dryer. VFDs were added to the manufacturer's condenser

Savings at a Glance

Delmarva Power Energy Savings for Business Program

(CUSTOM AND PRESCRIPTIVE)

Terumo Medical's Elkton facility took advantage of incentives to help install energy-saving upgrades that have reduced its power consumption and energy costs while creating more flexibility for future expansion.

Estimated annual savings

1,000,000

kWh per year

\$66,000

per year

Project costs

\$1,800,000

total project cost

- \$130,000

incentive

\$1,670,000

net project cost

water pump motors, chilled water pumps, and hot water circulating pumps to also help maintain the plant's stringent production and environmental requirements. Last but not least, Terumo will complete a building automation system conversion that connects and automates all of the building's new control systems.

The Benefits

Certain equipment at the Elkton plant had reached the end of its life expectancy and needed to be replaced. But other upgrades improved the plant's efficiency and bottom line. For instance, instead of purchasing new fixed-speed air compressors to replace the old ones, Terumo invested in VFD-driven machines that are projected to save over 400,000 kWh of energy annually. The VFD feature alone will pay for itself in less than a year. And that's just one example.

After analyzing the facility, Terumo became aware that its pumps were currently running with balancing valves that were 40–60% closed. (Thirty-five years ago, the pumps did not have the ability to turn down to match load conditions, so the solution in 1987 was to close the valves to reach flow requirements.) To remedy the issue, Delmarva Power recommended installing VFDs on all of Terumo's circulating water pumps. Since the switch, Terumo's plant engineers now can dial back the motor speeds to match changing building loads and save a substantial amount of energy. They also can eliminate a series of circulating pumps that had been adding \$30,000 annually to the plant's operating expenses.

- Projected energy savings of 1,000,000 kWh per year
- \$66,000 in estimated annual cost savings

"Overall, it has been a very positive experience," Pusey says. "Consulting with Delmarva Power on available incentives enhanced our environmental and social responsibility efforts. It also resulted in increased cost savings."

The Delmarva Power Energy Savings for Business Program provides financial incentives and technical assistance to help businesses maximize energy efficiency and reduce energy costs. Financial incentives can cover up to 70% of project costs.

Get started now

For more information, visit delmarva.com/Business or call **866-353-5799**.



"Our facilities engineering team knew we needed to make these investments due to age, and it was great that we could do so in a manner where the financial investment would pay for itself while also being a little greener."

– Don Notigan | Facilities Engineering Manager | Terumo Medical