

ENVIRONMENTAL,
HEALTH, SAFETY
AND SUSTAINABILITY



Medtronic

Medtronic Taps in to Significant Water Savings in Drought-Weary Boulder, Colorado



Situated 5,400 feet above sea level, the Medtronic Surgical Innovations manufacturing facility in Boulder, Colorado is located in a high-desert climate.

Boulder is arid and relies solely on the snow runoff from the Rocky Mountains to fill local reservoirs that provide water to the city and county. During seasons of drought and extra-dry conditions, water is a precious resource that must be used wisely.

That's why, when a Medtronic team in Boulder came up with a resourceful way to save more than 1 million gallons per year at this facility, it was more than just a splash of good news!

This wellspring of innovation will have a positive impact on the environment in Colorado for years to come, reflecting Medtronic's commitment to good corporate citizenship as we fulfill our Mission.

Thirsty for Alternatives

This Medtronic MITG location is responsible for manufacturing Electrosurgical Equipment products. Previously, the facility was using 2 gallons of water per minute—that's 1 million gallons per year—to cool a vacuum pump that is instrumental in the E-Beam process (a sterilization and chemical bonding technique) used during the production of Polyhesive Pads.

All of this cooling water was being sent through the jacket of the pump and then dumped straight down the drain. It was clearly an opportunity for innovative minds to create a more sustainable solution.

Cool Collaborators

A solution would not have materialized without a consistent and dedicated team effort. It began with a culture of employee engagement promoted by the Facilities Maintenance department at the Boulder facility. The management team supports and empowers employees to be on the lookout for—and report—energy and water waste that exists throughout the manufacturing facility as well as the entire campus.

Within this empowered working environment, Medtronic employees took the initiative after noticing a process on the E-Beam production line that was wasting a great deal of water. The issue was elevated and a team was pulled together which quickly realized that a solution could be created at a very minimal cost by repurposing existing equipment.

Free-Flowing Innovation

Following the recent decommissioning of a chiller that another department no longer needed, the team did some investigation and confirmed that the decommissioned chiller would work for their project.

In the end, the team came up with a way to reuse this spare 2-ton chiller to create a closed loop cooling system that would circulate the water through the jacket of the pump, instead of sending the water down the drain.

It was a unique opportunity to significantly impact water use in an area that is prone to draught and water restrictions.

Andy Vissers, Principal Facilities Engineer, explained: "This project took on an innovative approach by reusing a piece of equipment that would have ended up in storage."

According to Andy, there were other creative solutions designed into the system as well. He added, "We tied the level sensors and power of the chiller and pump into the Building Automation System—so that if there were any issues with the chiller or pump, the system would shut down and phone the operator on duty, in order to protect the sensitive equipment."

Refreshing Results

The results so far have been outstanding. Because of this new cooling process, the Boulder facility is reducing its water bill by \$10,000 annually—and more importantly, conserving a resource that is rapidly being diminished year over year.

Fully implemented in June 2015, this innovative solution has created water savings in excess of 1 million gallons per year. This refreshing rate of water conservation is expected to continue for the life of the E-Beam production process.

Thanks to Bob Anderson, Scott Klein, Andy Vissers, and all of the Medtronic employees and contractors in Boulder who contributed to this important effort. For more information about the E-Beam Closed Loop Chiller used in Boulder, please contact Andrew.j.vissers@medtronic.com.

Do you have Sustainability-related story or an idea to share? We want to hear it! Please [contact us](#).

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