



Boston Scientific reduced energy and maintenance costs with DriSteem humidifiers

RESULTS

- Achieved payback within 1.8 years
- Achieved relative humidity (RH) set point within 1%
- Reduced humidifier energy costs by 38%
- Reduced humidifier operating costs by 55%
- Reduced humidifier maintenance costs by 90%

CHALLENGE: IMPROVE CONTROL AND EFFICIENCY

Boston Scientific–Cork Ltd. (BSCL) manufactures stents for heart surgery patients. This critical application requires humidification delivered 24 hours a day continuously within 1% of set point. However, existing humidifiers were not meeting this control requirement. Additional challenges included reducing energy and maintenance costs, increasing reliability, and meeting a two-year or less payback required for funding.

APPLICATION: MATCH HUMIDIFIER TO REQUIREMENTS

BSCL had seven air handling units with previously installed electrode humidifiers operating with very hard, potable water, and dispersing steam through multiple dispersion units. Electrode technology is suitable for a number of humidification applications. However, it is not applicable for critical applications requiring continuous operation and tight control, or applications where reduced maintenance costs and resource conservation are a priority.

Electrode technology requires frequent draining, filling, and reheating in order to maintain steam production. Noncontinuous steam production makes tight control difficult. Therefore, BSCL experienced frequent interruptions in steam production, higher energy costs from reheating, more water usage due to refilling, and higher maintenance costs due to cylinder replacement.

SOLUTION

Fourteen DriSteem resistive-element Vapormist® humidifiers were installed in BSCL's stent production areas replacing the existing electrode humidifiers. All of the Vapormist humidifiers maintained RH within 1% of set point for BSCL's production rooms, as required. Rapid-sorb dispersion panels dispersed the steam in the seven air handlers. The humidifiers were distributed throughout the air handling units, and depending on the load, some air handling units had three humidifiers.



Boston Scientific - Cork, Ireland

For 30 years, Boston Scientific has been an industry leader in the development of medical device technologies.

"Resistive technology was ideal for this critical application. I am very pleased with how the installation went, and how smoothly the transition was from electrode to resistive."

— Rich Costa
Intelligent Building Controls
Representative



DriSteem Vapormist humidifier

Precise control and being virtually maintenance free made the Vapormist a perfect choice for the critical requirements of Boston Scientific's medical production rooms.



Installed Vapormist humidifiers at BSCL.

Racking system minimized down time

An innovative racking system allowed installation with minimal humidifier down time. Since BSCL required continuous operation, the new humidifiers were pre-piped, wired, and installed on racks with wheels. The new humidifiers were then seamlessly exchanged.

Heating fresh water to replace drained water (to remove conductive ions), can affect electrode humidifier performance and efficiency. Resistive technology combined with RO/DI water provided the tight control and minimal maintenance that BSCL was looking for. Properly maintained RO/DI water does not require draining or skimming, and resistive technology with RO/DI water allows for continuous steam production.

COST SAVINGS BREAKDOWN

- Energy costs:
Reduced the need for heating make-up water, saved 38%.
- Maintenance costs:
No cylinders to be replaced or refurbished, saved 90%.
- Operating costs:
Energy and maintenance costs combined for an overall reduction in run time, saved 55%.

DriSteem Distributor, Intelligent Building Controls Ltd. (IBC), is the premier supplier of top quality building energy management systems, control and measurement products in Dublin, Ireland. IBC provided superb consultation to BSCL throughout the duration of this project.

PM Group was instrumental in their system design. PM Group was established in 1973 and has grown to become one of the most respected engineering design, architecture and project management firms in the world. Envotech was important for their partnership and innovation. Envotech's growth is spurred by innovative products, intelligent designs, and custom projects fueled by collaboration.



DriSteem Corporation

A subsidiary of Research Products Corporation
DriSteem U.S. operations are ISO 9001:2015 certified

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RESOURCES

For more information on DriSteem's resistive technology, go to:
[Resistive v Electrode Technology](#)

For more information on DriSteem's Vapormist product, go to:
[DriSteem Vapormist](#)

For more information on ordering DriCalc, go to:
[Ordering DriCalc](#)

For more information on finding your local DriSteem representative, go to:
[DriSteem Home Page](#)