

Intelligent Building Controls & Boston Scientific

Humidification redesign slashes Boston Scientific's maintenance costs by 55% per annum with a ROI of only 1.8 years.

Intelligent Building Controls Ltd. (IBC) is an Irish owned B2B distribution and merchanting company. IBC is a global supplier of premier Building Energy Management Systems, Controls, Peripherals and Measurement Products. IBC has built strategic relationships with first class manufacturers, like DriSteem, to ensure customers have the best in class products to operate the most cost effective energy efficient buildings.



DriSteem HT Humidifier

For 30 years, Boston Scientific has been an industry leader in Medical Device technologies. With plants all over the world, and three here in Ireland they employ 25,000 people worldwide. The humidification systems installed in Boston Scientific Cork Ltd. (BSCL) run 24 hours a day and therefore energy efficiency, conservation, reliability and costs are an on-going issue.

With energy and maintenance costs rising BSCL consulted with John O'Neill, consultant at PM Group and Rich Costa, Intelligent Building Controls to find an alternative energy source to reduce the cost of maintaining stringent room conditions in the 24x7 production areas. Based on the specifications and objectives set by the PM Group & BSCL, IBC was able to provide a solution within the parameters of the

project. While the project initially set out to compare Gas with Electric, IBC delivered an electric system that delivered a reduction of 55% in running costs.

BSCL's existing electrode steam humidifiers came with an extremely high usage of electricity and maintenance due to aging systems. The design specification had the following objectives:

- Reduce energy costs
- Reduce maintenance costs
- Increase reliability
- Provide a return on investment (ROI) of less than two years

IBC redesigned the humidification system on 7 different air handling units serving BSCL production areas. IBC provided accurate running costs for the project by using data specific to BSCL systems and yearly, hourly weather conditions including humidity and temperature. Steam production could now be accurately calculated and transferred into kW energy.

This data allowed IBC to calculate the energy savings for a gas system of €287,000 over 4 years (Gas 3.2 cent Vs Electric 12 cent per Kwh). During the design phase electricity prices fell to 7.1 cent per kilowatt hour there raising the ROI above 2 years.

The final design consisted of DriSteem HumdiTech Humidifiers, a single energy efficient Rapid-Sorb dispersion panels and purified water for each of the 7 air handling units. John O'Neill (PM Group) adds 'Building a strong relationship with IBC ensured that the projects full environmental and business benefits were realised'.

The new system provided the following benefits:

- 38% lower energy costs
- 90% lower maintenance cost
- Design for Ireland's colder winters -14c.
- Accuracy of 1% of desired condition.
- Energy and water savings with the insulated dispersion tubes.
- Overall 55% less running cost.
- Return on investment of just 1.8 years

John O'Neill (PM Group) said, *'Replacing the existing electrode boiler humidifiers with the DriSteem Resistive Humidifier helped the plant reduce their energy costs with savings of nearly 300,000 Kwh per annum. The reduction in maintenance costs was also significant, the decision to use purified water assisted in the reduction/elimination of scale build up. The project was aided by a grant from Sustainable Energy Ireland (SEAI) of 10%. With the reduction of energy costs, maintenance costs and spare parts we propose a simple payback period of less than 2 years'*.



Rapid-sorb with
High-Efficiency Tube option

To ensure correct implementation of the redesigned system, BSCl engaged DriSteem partner Envotech Ltd to manage, install and commission the new systems. To ensure the project's success Envotech developed a state of the art racking system to minimize the change overtime, increase deployment and reduce the commissioning time. An Irish engineering company, founded in 2000, Envotech provides technical services to companies in the Pharmaceutical, Healthcare and Medical Device industries. Rich Costa (IBC) adds "It is technical partners like Envotech that seamlessly turn a project design into reality".

DriSteem have designed and manufactured humidification systems to meet unique humidification requirements for the last 45 years. Through their extensive research and development efforts they continue to develop industry leading innovations that greatly increase energy efficiency, reliability and precise humidity control.



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