

SOURCES

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U.S. Headquarters:
14949 Technology Drive
Eden Prairie, MN 55344
800-328-4447 or 952-949-2415
952-229-3200 (fax)
Email: inquiries@dristeem.com

European office:
Grote Hellekensstraat 54 b
B-3520 Zonhoven
Belgium
+3211823595
Email: dristeem-europe@dristeem.com

DATA CENTERS
HUMIDIFICATION
BUYER’S GUIDE



WHY HUMIDIFY DATA CENTERS?

Downtime and outages can cause decreased productivity, damaged reputation, and lost revenue for data centers. On a daily basis data centers face insurmountable amounts of risk, environment conditions being one of them. Air circulation with too little humidity results in dry air, elevating the risk of electrostatic discharge (ESD). While too much humidity will cause condensation to form, leading to damage, corrosion and eventually equipment failure of motherboards, hard drives and in connecting sockets. Whether too little humidity or too much, both can lead to unexpected downtime resulting in lost revenue and upset clients.

To prolong the life expectancy of equipment by preventing ESD and corrosion due to excessive condensation, ASHRAE recommends maintaining a Relative Humidity (rH) range of 40 to 60 percent.¹ Avoid disruption of critical processes and costly damage to valuable equipment by controlling the environment condition with relative humidity.

DriSteem humidification systems are an essential part of maintaining an accurate relative humidity level within a data center which is critical to lowering the risk of outages, reducing energy costs, and mitigating environmental risks.

ISSUES CAUSED BY UNCONTROLLED HUMIDITY LEVELS

Lost revenue

- › A survey by Information Technology Intelligence Consulting (ITIC) found a minimum uptime of 99.99% is required by 85% of businesses and their IT leaders. This equates to only 52 minutes annually of unplanned downtime of mission critical systems and applications.²
- › A survey conducted by Ponemon Institute found the overall average cost of data center outage is \$740,357. This is a 38% increase in average cost since 2010.³

Damage to equipment

- › For data centers using rack enclosures, monitoring humidity levels within the top 1/3 of a rack enclosure is minimally acceptable. It is most likely that equipment air intake will experience damage from low humidity conditions at this elevation.⁴
- › The cost of integrating an efficient and effective humidifier into a data center’s existing HVAC system is minimal in comparison to the potential damage of an uncontrolled environment.

Impact to reputation

- › Protecting the reputation of a data center in today’s high demand world is detrimental to its longevity. Extended downtime negatively impacts one’s reputation resulting in unsatisfied customers. Maintaining a consistent environment with relative humidity lowers the risk of system failure.



WHY CHOOSE DRISTEEM HUMIDIFICATION SYSTEMS?

COMMITTED TO QUALITY

DriSteem has been designing and building world-class humidification business for more than 50 years and is committed to making the best products in the HVAC industry.

DriSteem humidification systems are made to fit each unique application, whether it is ensuring the success of critical industrial processes, preserving fragile and valuable museum artifacts, or protecting the health and well-being of building occupants. DriSteem's mission is to support healthy environments – studies show that when room relative humidity (RH) drops below 40 percent, incidents of respiratory illness increase but by adding proper humidification, student and employee absenteeism can be significantly reduced.

DriSteem U.S. operations are ISO 9001:2015 certified and committed to providing high-quality products, efficient services, on time delivery, and innovative solutions.

SUPPORT & RELIABILITY

DriSteem sales representatives are the industry experts in humidification systems, and are trained to recommend and specify the best solution for any application. They are willing to go the extra mile to make sure everything runs smoothly at start-up and for the life of the equipment.

DriSteem stands behind their products with a world-class Technical Support team available to troubleshoot any issues that may arise. They can also provide start-up assistance and offer field service visits.

CASE STUDIES & RESEARCH

Support your business case with data – DriSteem is continually adding to our collection of white papers and case studies.

Recently, DriSteem partnered with the Mayo Clinic to determine whether low humidity levels during the dry winter months have an effect on the spread of flu virus in a classroom environment. As the study showed, the addition of steam humidification resulted in a significant reduction in the total number of influenza-positive samples in the air and on surfaces.

- See the full case study here: <https://dristeem.azureedge.net/public-documents/docs/default-source/azure-public/case-studies/mayo-clinic-humidification-case-study-0518.pdf?sfvrsn=2>
- And the supporting published study “Humidity as a non-pharmaceutical intervention for influenza A” here: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0204337>

Additional health care facilities case studies:

- Unsuitable Substitutions: Learning the Hard Way About Absorption <http://www.dristeem.com/humidity-university/case-studies/case-study-mercy-hospital>
- Ultra-sorb Improves Absorption and Reduces Operating and Maintenance Costs <http://www.dristeem.com/humidity-university/case-studies/case-study-ultra-sorb-improves-absorption>



DRISTEEM SOLUTIONS

XT SERIES ELECTRODE HUMIDIFIER

Good choice for single-room humidification. It can mount on a wall and disperse steam directly into a room such as a band or chorus practice space.

- Easy to maintain: No cleaning required. Simply replace the affordable steam cylinder when prompted by the controller display.
- Compact to fit in small spaces.



XT SERIES
ELECTRODE HUMIDIFIER

VAPORMIST® HUMIDIFIERS

Disperses steam humidification through ductwork with dispersion panels, or directly in the space.

- Full enclosure suitable for finished spaces
- Can be wall mounted



VAPORMIST HUMIDIFIER

VAPORSTREAM® HUMIDIFIER

Disperses steam humidification through ductwork with dispersion panels, or directly in the space.

- Industrial-grade unit designed to meet the humidification demands of any building environment
- Mount options: Trapeze hanger, wall brackets, support legs
- Seismic certified option (OSHPD)



VAPORSTREAM HUMIDIFIER

GTS® HUMIDIFIER LX SERIES

The LX Series is the only gas-fired humidifier that combines the highest efficiency on the market with ultra-low NOx in a single design.

- Condensing design for highest efficiency and PVC venting
- Ultra-low NOx certified to SCAQMD 1146.2 standards
- Smart drain technology adjusts drain intervals automatically based on water quality
- Universal water control for use with any water type, including RO/DI water
- Modulating output with minimum 5:1 turndown for accurate humidity control
- Outdoor and indoor models for application flexibility



GTS HUMIDIFIER LX SERIES

STEAM DISPERSION

Depending on the application, steam dispersion options may include:

- Ultra-sorb® Model XV steam dispersion panel
- Ultra-sorb® Model LV/LH steam dispersion panel
- Ultra-sorb® Model MP steam dispersion panel
- Multiple-tube humidifier
- Space Distribution Unit (SDU)



STEAM DISPERSION OPTIONS