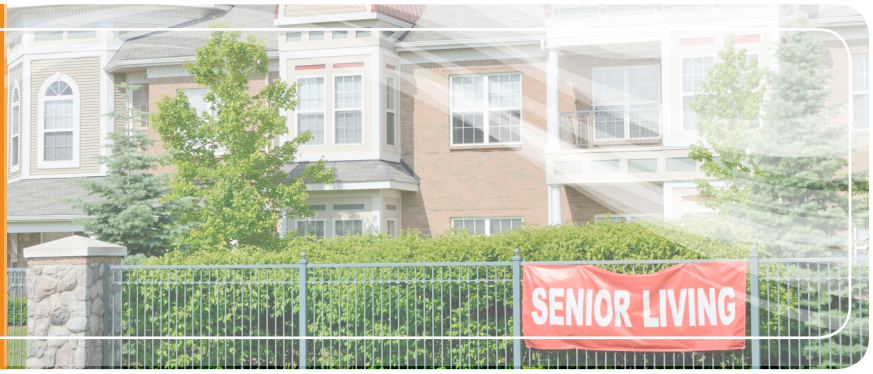
ASSISTED LIVING FACILITIES

HUMIDIFICATION BUYER'S GUIDE



WHY HUMIDIFY ASSISTED LIVING FACILITIES?

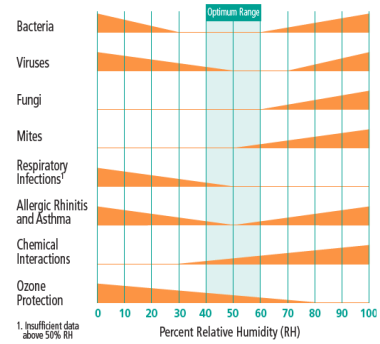
Humidification is a critical component of the HVAC system for continuing care and assisted living applications. Elderly residents in these facilities are especially vulnerable to health and wellness issues caused by overly dry air such as respiratory problems, skin irritations, dry nasal passages, dry eyes, and sore throats.

Over 4 million Americans are admitted to or reside in nursing homes and skilled nursing facilities each year and nearly one million persons reside in assisted living facilities. It has been estimated in the medical literature that infections are a major cause of hospitalization and death; as many as 380,000 people die of the infections in long-term care facilities every year.[3]

In addition, people aged 65 years and older account for more than 90 percent of influenza-related deaths in the United States and elderly nursing home residents are particularly vulnerable to influenza-related complications. In addition, the elderly are more likely than younger individuals to die from pneumonia.[5]

According to the Centers for Disease Control and Prevention (CDC), 1 to 3 million serious infections occur every year in nursing homes, skilled nursing facilities, and assisted living facilities.[3]

Studies have shown that keeping relative humidity levels within a range of 40 to 60 % is necessary to maintain a healthy indoor environment. There's evidence of a link between overly dry air and increased cold or flu transmission between people because dry air allows infectious particles, such as bacteria and viruses, to survive longer in the air and on surfaces. In addition, the natural defense system of our bodies become less effective in dry air, meaning that we are unable to fight off infection very effectively.



THE STERLING CHART[1]

ISSUES CAUSED BY LOW OR FLUCTUATING RELATIVE HUMIDITY

- Illness and Discomfort:
  - Dry indoor air can cause discomfort in the form of dry skin, eyes, and throat.
  - Dry indoor air can increase the incidences of cracked skin and dehydration, which can be especially threatening to vulnerable populations such as elderly residents who are often immune-system compromised.
  - Dry indoor air has a negative impact on the overall wellness of residents and staff because it makes it easier for infections to spread.
  - There are real costs associated with health-related issues caused by dry air, including a higher occurrence of infections and increased rates of staff absenteeism.
  - Humidified spaces feel warmer and are more comfortable for residents, especially in cold climates where heating systems run frequently.

ASSISTED LIVING FACILITIES

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.

ISO 9001:2015

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

DRISTEEM RESOURCES

- **Case Study:** Humidify to Reduce Respiratory Virus Transmission
  www.dristeem.com/humidity-university/case-studies/case-study-humidify-to-reduce-respiratory-virus-transmission
- **Case Study:** Steam Humidification Ends Winter Illness Crisis in Bambi Nursery's New Building
  www.dristeem.com - post online
- **Presentation:** Humidity and Occupants - What the Latest in Humidity Research Means for You
  www.ahrinet.org/App_Content/ahri/files/Humidity_Occupants_Presentation.pdf
- **Study:** Humidity as a non-pharmaceutical intervention for influenza A
  https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0204337.
- **Study:** Absolute humidity and the Seasonal Onset of Influenza in the Continental United States
  https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0204337.

SOURCES

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2. "Facts for Features: Older Americans Month," United States Census Bureau, May 2017, https://www.census.gov/newsroom/facts-for-features/2017/cb17-ff08.html
3. "Nursing Homes and Assisted Living (Long-term Care Facilities (LTCFs)," Centers for Disease Control and Prevention (CDC), 2019, https://www.cdc.gov/longtermcare/index.html
4. E.M. Sterling, Criteria for Human Exposure to Humidity in Occupied Buildings, 1985, ASHRAE
5. "CMS will require nursing homes to vaccinate residents against the flu," Centers for Medicare and Medicaid Services, https://www.cms.gov/newsroom/press-releases/cms-will-require-nursing-homes-vaccinate-residents-against-flu

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