Hospital & Surgical Suite Dehumidification

A solution to excessive surgical suite humidity is now available for both new construction and for most existing cooling-based mechanical air handling systems. By incorporating a Concepts and Designs, Inc. desiccant-based dehumidification system into the mechanical design for your hospital’s operating suite, the overall system can achieve optimal and active humidity control.

Today, due to heavy, multiple layered gowned and protracted surgical procedures, many hospitals require their surgical suites to be maintained at 60°F to 65°F or lower during the procedures. Long gone are the days when satisfactory space conditions for the operating rooms were around 68°F to 72°F and 50% relative humidity.

The problem with mechanical-cooling systems designed for and installed in surgeries is that humidity control is only a by-product of temperature control. Saturated air might be cold enough, but it makes for a damp operating suite.

Desiccant Dehumidification allows independent control of temperature and humidity, so your surgeons remain cool and dry. Operating rooms can be as cool and dry as desired!

Concepts and Designs, Inc. offers application assistance to your engineer in order to insure a superior surgical facility.

*Concepts and Designs, Inc. has over 16 years of experience with desiccant technology.*

Surgeon comfort is enhanced both by allowing cooler operating suite conditions and by eliminating the dampness so familiar to surgical staff.

Reduced pathogen viability and fewer nosocomial infections result from maintaining a dry surgery and dry air delivery system.

Improved procedure success results from maintaining a dry environment. For example, a correlation between procedure success and O.R. humidity levels has been noted in Laser-Assisted In Situ Keratomileusis (Lasik), where enhancement requirements are lower when procedures are performed under dry conditions.

Another benefit is the elimination of fog on microscope lenses and slides and on surgeons’ eyeglasses. Also, it is often necessary to maintain lower conditions in the operating rooms for therapeutic reasons or to keep the adhesive cements used in orthopedics from setting too quickly.

*Concepts and Designs, Inc. is the premiere manufacturer of actively regenerated desiccant-based dehumidification systems for hospitals. Operating suites can now maintain the low temperature and humidity conditions required for surgeon comfort and successful medical procedures.*
Surgeons and patients will benefit from improved operating room environment. These systems employ active desiccant technology in order to allow drier and healthier operating room conditions. Benefits of Concepts and Designs, Inc. desiccant dehumidifier units include:

- Greater comfort for the physicians during surgical procedures
- Independent humidity and temperature control
- Removal of moisture upstream of any air handlers, allowing dry cooling coils
- Surgical suite duct work stays dry to prevent mold growth
- Desiccant dehumidifier can be added to hospital’s existing mechanical system
- Allows the hospital’s chillers to operate more efficiently
- May allow additional chilled water loads without adding additional chillers
- Makes efficient use of wasted excess boiler capacity during summer, off peak seasons, by using steam for desiccant regeneration
- Controlling latent loads with the desiccant system allows for precise and quick temperature changes (i.e., quicker cool down and recovery times)
- No more fogging of microscope lens or surgeons’ eyeglasses
- No more “raining” from the operating room ceilings and/or fixtures
- Units are available with an integral smoke-purge system

Concepts and Designs, Inc. can furnish desiccant dehumidification to retro fit your existing HVAC system or design a packaged unit for new construction.

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