



DRY-O-TRON® DA5-080 DEHUMIDIFIER



FSU's Strozier Library Archival Room Features State-of-the-Art Air Purification

Engineer's design includes tough Florida dehumidification, gas-phase air purification, heating, cooling, and winter humidification from a single packaged unit

Tallahassee, Fla., – Florida State University's renown Seminole Indian artifact and rare book collections are now accessible to students in one environmentally controlled room thanks to a \$827,000 renovation and a consulting engineer's state-of-the-art HVAC design.

While accessibility is the motivation behind the creation of the Robert Manning Strozier Library's new archival room, maintaining strict temperature and humidity control while filtering out air pollutants is essential in preserving the 8,000-square-foot area's collections.

The challenge with this project was specifying equipment to exclusively handle air conditioning, heating, dehumidifying, humidifying, and air filtration, and then fitting all of the components into as small a space as possible to allow for maximum collection archiving.

Versus separate components, a one-package unit saved the university an estimated 300-square-feet in mechanical room space, which would equate into a savings of approximately \$37,500 when considering local construction costs of \$125/sq. ft.

Additionally, 300 square feet is an invaluable asset when retrofitting a designated space within an existing building.

With so many variables and such tight tolerances, a one-package unit was specified to maintain a 73°F temperature, 45-percent relative humidity, and to filter out harmful gasses. Although the HVAC system uses the campus' chilled water loop for the water-cooled condenser, it redundantly relies on the package unit for

or reconstruction, the package unit operates self-sufficiently.

Dectron provided nearly all the environmental conditioning, with its on-board microprocessor/controller managing the humidification, which is introduced into the supply ductwork. Only a 12-lb./hr. humidifier for Florida's dry season is not part of the packaged unit.

Books, artifacts and other collectibles can deteriorate from a myriad of gasses. Taking recommendations from FSU's

In the first four quarters of operation, samples of the chemical media are sent to one of the world's largest gas-phase filtration laboratories at Dectron headquarters in Montreal, Canada, for testing. Circul-Aire technicians then adjust the MULTI-MIX® chemical media mix and recommend time spans for future periodic testing through Dectron's proprietary TECH-CHEK™ service. This attention to detail assures the library's rare collections will endure the test of time.

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continuous operation. Most important was single source responsibility. Environmental conditions are critical in an archival room, and as such, concern about compatibility and transitions of separate components, plus the extra space they would require, were not desired. With an all-in-one package unit, everything is fitted and tested at the factory, and there is single source responsibility.

Additionally, if the central plant utilities are not available in the event of maintenance shutdowns

special collections archivists, the air handler's filtration module utilizes a gas-phase filtration process to maintain sulfur dioxide under 0.4 parts per billion; nitrogen oxide under 2.5 ppb; and ozone under 1.0 ppb. Dectron's Circul-Aire filtration division custom-blended gas-phase chemical filter media for the project to remove the aforementioned air contaminants, as well as volatile organic compounds commonly off-gassed by book papers and binding glues.

While filtering is critical, the testing of the media's effectiveness and endurance is equally important.

Dectron Inc., an ISO-Certified company, is a global HVAC industry leader. For more than 28 years, Dectron's highly-skilled engineers and technical staff have been designing and manufacturing innovative, state-of-the-art DRY-O-TRON® dehumidification equipment that use leading-edge technology to recycle energy, conserve pool water, and CHLORAGUARD® filter natatoriums. Dectron Inc.'s DRY-O-TRON® line of products encompasses an extensive array of custom and semi-custom systems for industrial, commercial and residential applications.



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