

DRY-O-TRON® Dehumidifier Unsung hero in YMCA fire



Camp Hill, Pa. – After settling down at home to watch the 11 p.m. news, mechanical engineer David Andiorio was horrified to see live coverage of a fire

Technologies Inc., voluntarily dashed to the scene, figuring that West Shore YMCA's maintenance director, Allan Allison, and fire department officials might need his

neous combustion, that Andiorio's assistance was needed to clear dense smoke from the 65,000 square-foot facility so damage inspections could proceed and the area could be secured until morning.

The building automation control's 72-hour back-up memory power feature and interface link to all HVAC equipment allowed Andiorio to operate vital HVAC and lighting functions when building power outages temporarily restricted operation.

"Before we exhausted (the smoke) we tried to inspect the natatorium, but the fire marshal couldn't see ahead more than a foot or two even with his flashlight," recalled Allison. "He had to keep a hand on my shoulder while he followed me through the pool area."

With an abundance of individual power outages, tripped breakers and broken circuits hampering operations, Andiorio manually turned on the exhaust fan feature of the 10,000 square-foot natatorium's rooftop dehumidifier/air conditioner/ heater, a DRY-O-TRON® RS-150 by Dectron Internationale.

Within 15 minutes, the DRY-O-TRON® dehumidifier completely evacuated smoke from the 10,000-sq-ft pool room as well as the ill-fated locker room

at the Camp Hill YMCA recreation center where he recently oversaw a HVAC retrofit.

Andiorio, a performance assurance engineer at the Mechanicsburg, Pa., branch of Siemens Building

help manually operating the site's sophisticated Siemens Building Automation System.

It wasn't long after firemen extinguished the locker room fire, allegedly caused by a faulty sauna's sponta-

Within 15 minutes, the 5,000 cfm fan, which is sized and operated in conjunction with the outdoor air-damper actuator, completely evacuated smoke from the 10,000-sq-ft pool room as well as the ill-fated locker room where the fire had caused \$225,000 in damages.

Besides the pool area the DRY-O-TRON® also pulled smoke from the entire building (once doors and hallways were opened) and saved tens of thousands of dollars in potential smoke damage to the remainder of the recreation center.

In effect, Andiorio's project, which was designed by former Siemen's engineer Jason Richards, P.E., passed the ultimate smoke bomb test. Smoke-bomb testing is sometimes intentionally administered in sick buildings to visually reveal ventilation problems.

It was Richards and Andiorio who had specified the factory-installed exhaust fan in the custom-manufactured DRY-O-TRON® but its intended use was not for smoke clearing during fires.

Instead, the two-speed fan is intended to operate at full capacity during swim meets when the introduc-

▼ This DRY-O-TRON® dehumidifier proved to be an unlikely hero in the fire.



tion of several hundred bodies who emit their own humidity and carbon dioxide taxes a ventilation system. During nighttime hours, however, the fan and outdoor damper are programmed for low-speed operation to conserve energy and save the YMCA money.

This retrofit replaced an aging air conditioning/ heating air handler that had unsuccessfully attempted indoor air quality and humidity control through a single wall supply. Consequently, years of excess chloramine-laden air wafting throughout the facility had permeated and corroded holes through the 40-year old natatorium's cinder block walls and concrete decking.

Siemen's remedy, which was a design/build performance contract for HVAC and lighting, included more than just the dehumidifier installation. Instead of a mere wall-grill supply, Richard's design included 4-ft-round spiral ceiling-hung ductwork. With a circular pattern and many take-offs, the ductwork equally distributes the air and eliminates the many dead-air spaces the former HVAC systems created.

The DRY-O-TRON® did its job, but a lot of credit is due to the engineer's indoor-air quality design. Proper ventilation design is an important part of any project and was apparent in this case, where the circumstance of the fire and

smoke was unfortunate, but it did prove the integrity of the indoor swimming pool's ventilation system and the effect its normal, every day operation has on swimmers and spectators. The system introduces the appropriate amount of outside air for homogeneous air quality throughout the space, but also has an exhaust fan to dilute chemical gas build-up.

Siemen's retrofit design has been an "amazing improvement," according to Allison, over the previous ventilation system, which was specified before commercial dehumidifiers came on the HVAC scene in the early 1970s.



designer indoor air®

USA
10935 Crabapple Road
Suite 202-A
Roswell, Georgia 30075
Tel.: (770) 649-0102
1 800 676 2566
Fax: (770) 649-0243

CANADA
3999 Cote Vertu
Montreal, Quebec
Canada H4R 1R2
Tel.: (514) 336-3330
1 888 DECTRON
Fax: (514) 337-3336

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