

# Bulletin # 2

## Waste Ventilation

ASHRAE HVAC APPLICATIONS MANUAL STATES:

*“Natatoriums with fixed outdoor air ventilation rates without dehumidification generally have seasonally fluctuating space temperature and humidity levels. Systems designed to provide minimum ventilation rates without dehumidification are unable to maintain relative humidity conditions within prescribed limits. These systems may facilitate mold and mildew growth and may be unable to provide acceptable indoor air quality. Peak dehumidification loads vary with activity levels and during the cooling season when ventilation air becomes an additional dehumidification load to the space”.*

Waste Ventilation Systems create major problems in dehumidifying indoor swimming pool enclosures including high operating costs and maintaining acceptable humidity control conditions without adding some mechanical dehumidification equipment. For effective humidity control, some effective DX based dehumidifier recovery device must be considered when the heating, ventilating and/or cooling system is designed.

During cold weather, a considerable amount of heat is required to temper the outdoor air being introduced into the pool environment and when temperatures are intermediate; this system may not control humidity.

During hot weather the system cannot control temperature or humidity. The Waste Ventilation Systems are costly both to install and to operate. They also do not have the recovery heat for the pool water which adds more operating costs.

Recoverable energy consists of both the sensible and latent heat of the exhaust air. The latent component can be a very sizable part of total recoverable energy, therefore a heat recovery device that can extract both sensible and latent heat should be considered.

Since a Waste Ventilation System can only provide effective humidity control if the outdoor air is reasonably drier than the indoor air, it will not perform well in humid weather (i.e. 90 Degrees Outside with 95% Humidity and it is raining). Therefore, a mechanical dehumidification system will be required to control humidity in the enclosure when the outdoor air approaches the moisture content of the indoor air.

### The Perfect Balance of Water and Air

DXair Dehumidifiers are designed exclusively for use in all indoor swimming pool applications: from lap pools, schools, large hotel/resort indoor swimming pools, where humidity needs to be controlled with dehumidification to prevent deterioration of the pool enclosure.

For more information, contact DXair.  
[www.dxair.com](http://www.dxair.com) 800/514-7051