Indoor Swimming Pools
Aquatic Centers

DuctSox Textile Air Dispersion Systems
Air Distribution

Air distribution in indoor swimming pools and aquatic centers can be challenging. Human Comfort, installation cost, maintenance, limited ceiling space, energy efficiency, condensation control and maintaining proper operating temperature are just a few of the important factors that must be considered when properly designing a duct system in a an aquatic environment. DuctSox Textile Duct and Diffuser Systems have many advantages and benefits when installed in these types of applications.

**Improved Air Distribution.** In open ceiling architecture, traditional metal duct systems discharge air through side mounted metal diffusers. The air is directed to specific zones resulting in less efficient mixing of air in the occupied space and often causes drafting and hot or cold spots. With a DuctSox System, the air is discharged more uniformly along the entire length of the DuctSox System providing consistent and uniform air dispersion in the occupied space.

**Lower Cost.** The cost of a DuctSox System is 20% to 80% less than metal. The cost savings of non-condensating air porous DuctSox are even more when compared to insulated metal duct or premium materials such as stainless steel or aluminum. There is also considerable savings in the labor time required to install DuctSox versus a comparable metal system. It may require 10 times more labor (man hours) to install metal and the savings increase dramatically with diameter.

**Low Maintenance.** Cleaning metal ductwork can be expensive. These costs are often overlooked. A dirty duct (interior) can be a leading contributor to sick building syndrome, human health problems, and the possible contamination of the manufacturing process. DuctSox Systems are designed with zippered sections for ease of handling. Depending on the type of manufacturing environment, a DuctSox System can be easily removed and laundered in a commercial washing machine.

**Simplified Design.** Since a DuctSox System provides superior air mixing within the space, often the layout can be much simpler than a metal system. This means less ductwork! Because the entire DuctSox System is a diffuser and air is dispersed down the entire length of duct, air can be supplied to the occupied space in a more efficient pattern. In addition, DuctSox Systems may be designed with fittings similar to metal ductwork with unlimited customization to match any application requirements.

**Energy Efficient.** A DuctSox System is also more energy efficient than a traditional metal duct system. A 10-month study performed by the Mechanical Engineering Department at Iowa State University, “Thermal Comparison Between Ceiling Diffusers and Fabric Ductwork Diffusers for Green Buildings” proved fabric duct brings the temperature in the space to set point 24.6% quicker and more uniformly than a traditional metal duct/diffusers system.

**Customization.** DuctSox also offers a variety of solutions for specific application requirements. Options include products with an active antimicrobial agent that inhibits bacteria and mold growth, air porous fabrics (air passing through the fabric surface) that help eliminate the risk of condensation, electro static dissipative yarns that dissipate static buildup in electrically sensitive environments, and an internal framework tensioning system (SkeleCore) that prohibits the ductwork from sagging when there is no air in the system. All of these options offer a wide range of flexibility when designing an air distribution system to meet the specific application requirements in indoor swimming pools and aquatic environments.

With increased efficiency of air delivery, lower installation costs, ease of maintenance, simplified design, and a variety of options to meet the most demanding applications, DuctSox are clearly the best choice when designing an air distribution system in these types of applications.

**Benefits**

- Improved air distribution
- Significantly lower cost than metal
- Low Maintenance
- Simplified design
- Energy efficient
- Draft-free or precisely controlled air dispersion
- No risk of condensation
- Less drafts reduce airborne dust and dirt
- Variety of options for manufacturing environments
## Fabric

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<th>Specification</th>
<th>DuraTex</th>
<th>Verona</th>
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<td>200mm to 2000mm 8” to 78”</td>
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<td>Linear Vents, Fixed Nozzles and/or Adjustable Nozzles</td>
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<td>125 Pa Standard/ Range 94-747 Pa 0.50” Standard-Range 1/4” to 3.00”</td>
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## Air Dispersion

**HIGH VELOCITY**  
Air is dispersed through Orifaces. Also available with fixed or adjustable nozzles

**MEDIUM VELOCITY**  
Air is dispersed through linear vents on the surface of the fabric

**LOW VELOCITY**  
All air is dispersed through the surface of the fabric
**Suspension Systems**

**Cable**

Simple Tension Cable is available with all fabrics and is the most economical option. For use with all diameter sizes, cable suspension is available for 1, 2, and 3 row suspension options. Gliders are spaced every 24” (610mm) along the length to ensure proper support. The system consists of a cable, turnbuckle(s), and securing hardware for a simple installation. ASHRAE design criteria recommend that a plastic coated impregnated cable be used in aquatic applications.

**Track**

Anodized aluminum track includes an open top and bottom to allow easy location of vertical supports and clear connection to the DuctSox. For use with all diameter sizes, U-Track suspension is available for one or two row suspension options and can include radius sections for elbows. Gliders are spaced every 24” (610mm) along the length to ensure proper support. The system consists of U-Track, couplers, end caps, locking cable drop supports for easy installation.

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**Code Compliance**

- UL Classified
- DIN
- British Standard
- Chinese Standards
- ICC AC167
- Standards Australia
- Standards New Zealand
- NFPA

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