Brief

OACIS Platform: Outdoor Active Cooling

OACIS Solid-State Bladeless Fans

In this ever-warming global environment, people find themselves seeking the refuge of indoor air conditioning to be comfortable. Avoiding the outdoors has implications on the utilization of valuable open-air real estate resulting in fewer hours-of-operation and lower customer engagement. The world needs new and imaginative solutions to provide sustainable comfort beyond the indoors to societies living with hot and humid climates.

Naturally improving your quality of life outdoors

Solid-state for natural cooling

Phononic's OACIS uses groundbreaking solid-state technology which can deliver a more effective and viable outdoor cooling solution. Traditional ceiling fans just push hot air around, but OACIS lowers the air temperature and humidity to bring relief from the heat.

Reliable

Phononic technology is exceptionally reliable and serviceable – qualities that translate into lower total cost of ownership (TCO). Phononic solid-state heat pumps have demonstrated time-to-failure cycle counts that are 100x higher than traditional TECs.

Stay longer and enjoy more

The result is a relaxing place where customers linger, citizens enjoy nature, and contentment is increased. Perfect for use in locations such as al fresco dining, outdoor gardens, public parks and more, OACIS fundamentally changes the way the world keeps people cool outdoors.

All in a sustainable way

Traditional cooling systems use CFCs, hydrocarbons, and other toxic refrigerants. Phononic's OACIS actively cools using just CO2 and water, making it the most sustainable cooling and heating solution on earth.

Features

- Up to 10°C temperature drop in the air
- Gentle, airflow creates defined area of comfortable space
- Dehumidifies to enhance evaporation of moisture
- Integrated condensation management system

Typical Performance & Environment

- Standard ambient 38°C and 85% RH
- Up to 10°C drop from ambient air temp

Complete System Includes:

- Control electronics
- Secondary air flow
- Drive motor
- Condensation management

Bladeless Impeller Fan

- Actively cools using only natural refrigerants
- R744 [CO2]
- R718 [H2O]
- Adjustable cooling and air flow rate
- 900W-2600W
- 100-200 l/s
- 1.3m diameter system
- Up to 14m2 coverage

Input Requirements

- 24 vDC
- ~0.5 – 2.6kW

Installations below 3 Meters from unobstructed ceiling may require ventilation for optimal performance

How It Works

The OACIS bladeless fan is uniquely designed to create an independent air curtain encapsulating a distinct area. The air within that space is drawn into and recirculated across a solid-state cooling system which conditions the air to remove heat and moisture. The conditioned air can then be concentrated into a central down draft for a high velocity, maximum cooling effect or diffused for lower velocity, comfortable cooling.

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