



SubAir

Sport

Sport

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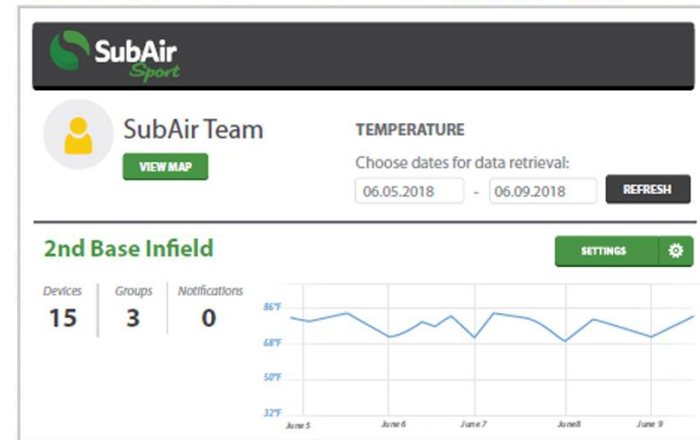




SubAir Sport

The SubAir aeration and moisture removal system promotes healthier, stronger playing surfaces through moisture content management, subsurface aeration and root zone temperature control. With a SubAir subsurface aeration system and integrated turf monitoring technologies, the safest, most consistent turf conditions and unrivaled playing surface is possible. SubAir's operating system is used in sports stadiums and professional golf venues around the world, including **Wembley Stadium (NFL and soccer, London)**, **FIFA World Cup stadiums in Russia 2018 and Brazil 2014**, Sports Authority Field at Mile High (Denver Broncos), Lincoln Financial Field (Philadelphia Eagles), Practice Field (New England Patriots), Citi Field (NY Mets), Ameritrade Park (NCAA World Series), as well as major golf venues such as 2014 Ryder Cup – Gleneagles, Winged Foot Golf Club, Congressional Country Club and Augusta, Georgia.





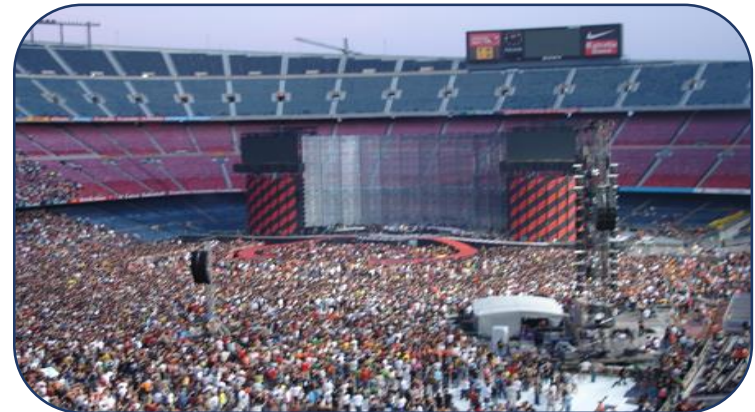
SubAir Sport Technology

Our new, patent pending, integrated technologies for SubAir Sports Systems – TurfWatch™ - provide access to real time field conditions and system operations via any internet connected device. At the main control center, a HMI screen also displays current field conditions and operations of all system activity. With TurfWatch™, field managers can review all information from a smartphone, tablet or desktop computer. Oxygen, soil temperature, moisture and salinity levels throughout the entire field can be monitored, evaluated and the system can be initiated to respond with treatment options to restore the field to specific targeted levels. Cloud based storage retains all operations and field data for trending and evaluation. The combined monitoring, operational and communication technologies give field managers immediate systems response and access to control healthy field conditions that support grass and root growth.



» Benefits of SubAir Sports Turf Solutions

- ✓ Optimize Subsoil Growing Conditions
- ✓ Playing Field Surface Consistency
- ✓ Player Safety
- ✓ Improved Owner Economics



» SubAir Sports Turf Solution Package

SubAir Sport System

- Oxygen/Aeration to Roots
- Moisture Control
- Start and Extend the Growing Season
- Moderate Rootzone Temperatures with Ambient or Heated Air
- 120° Heated Air Propelled Through Soil Profile Moderate Extreme Temperatures



Total Turf Solution

TurfWatch™ Technologies

- Monitor and Report Subsurface Conditions 24/7 from In-Ground Sensors
- Immediate Access to Field Conditions
- Activate System Response via Smartphone or Computer
- Cloud Based Data Storage

SubAir Sport Turf Fans

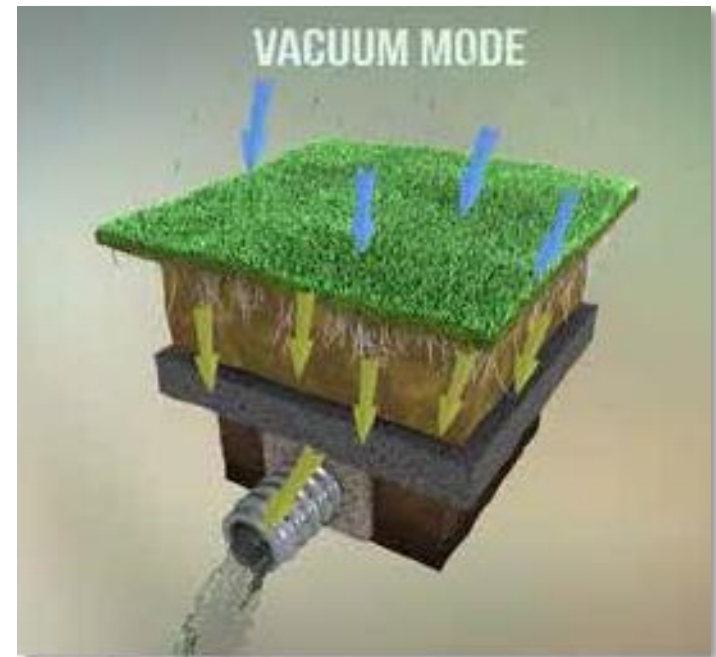
- Reduce Humidity and Temperatures at Field Level
- Increase Air Movement Across Turf
- Benefits Shaded Turf



What the SubAir® Sport System Achieves

In Vacuum Mode: Water Reduction

- Removes excess water from soil profile 36x faster than natural gravity drainage
- No Puddling
- Manage water usage
- Stable water delivery to root system
- Control Salinity
- Deeper healthier root zone



SubAir Sports System connects to the existing field drainage system, thus no impact to the playing field during installation.

What SubAir[®] Sport System Achieves

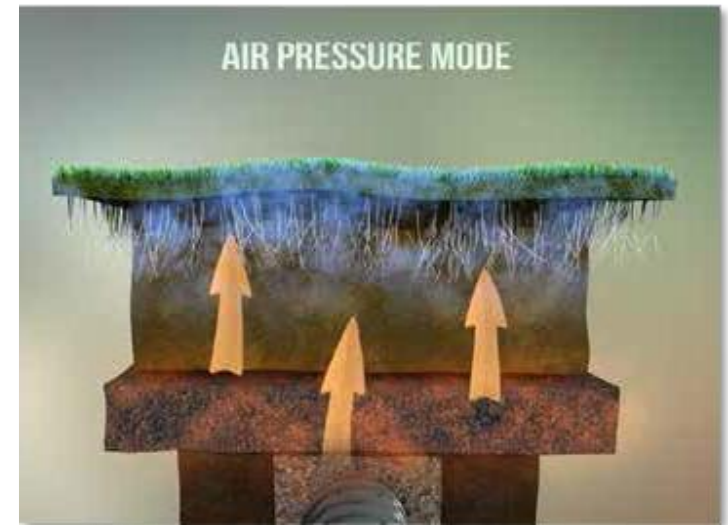
In Air Pressure Mode:

Oxygen

- Provides fresh air to plant roots
- Prevents anaerobic conditions (black layer)
- Stimulates microbial activity
- Removes harmful gases from the roots zone
 - Carbon dioxide, methane and hydrogen sulfide

Temperature

- Moderate temperature variations
- 2- 8° moderation of temperature using air pushed through subsurface due to natural geothermic process
- Addition of heated air from furnace provide significant warming of subsoil



SubAir Sport Heated Air

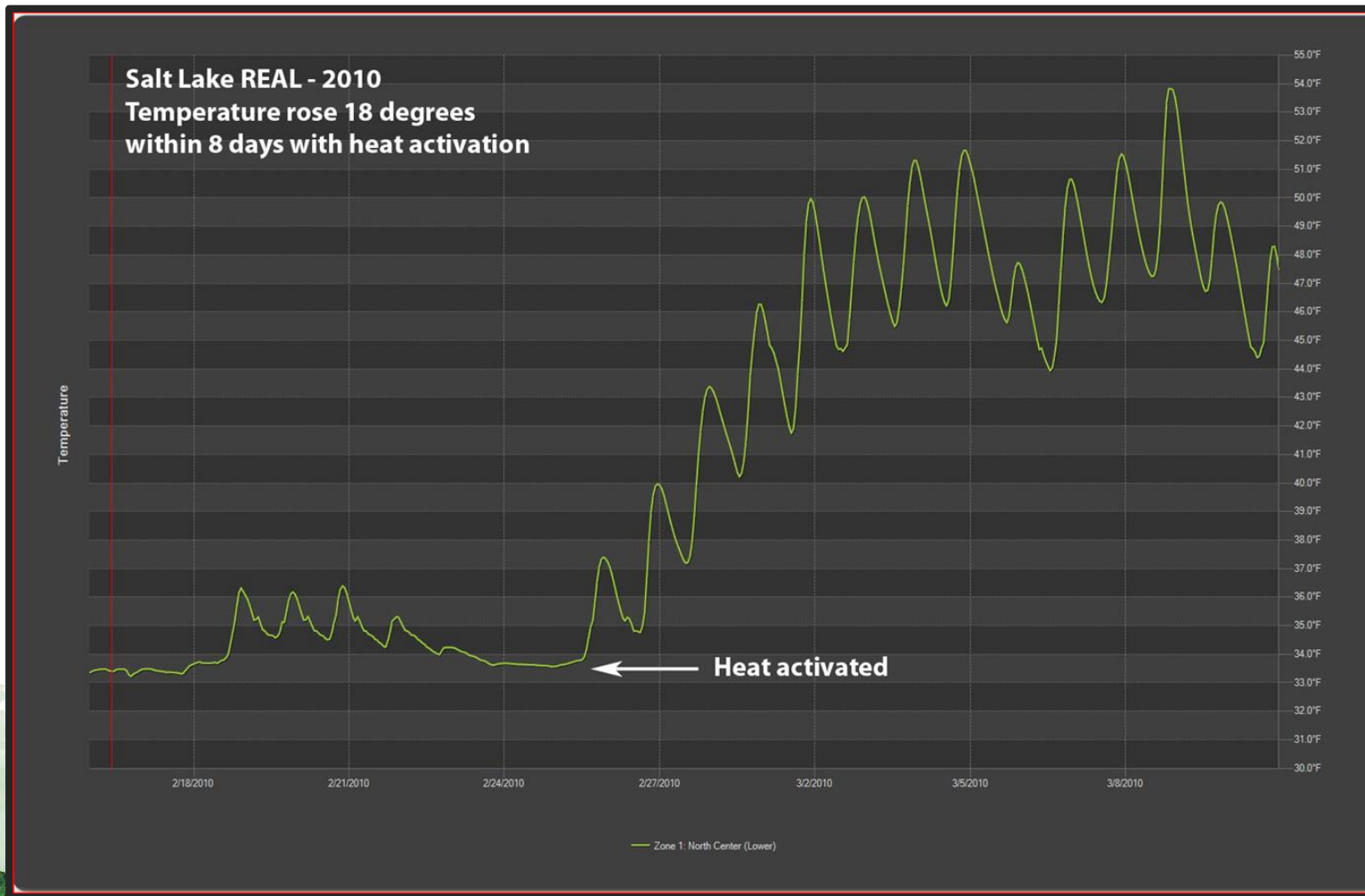
- Heated air is moved through the drainage system and forced up into the soil heating the entire soil profile
- Significantly alters the impact of temperature extremes to maintain healthy root system and growth
- Up to 20° of temperature increase to root zone
- Extend the growth season
- Furnace is installed in the SubAir equipment room – no installation impact on playing field
- Ideal for “transition zone” – reduces need of overseeding.



Colorado Rapids Field - after 14 days of SubAir Heated Air & turf blankets



Use of Heated Air at Salt Lake Real



TurfWatch™ Technologies

Monitoring, Communication and Integrated Controls

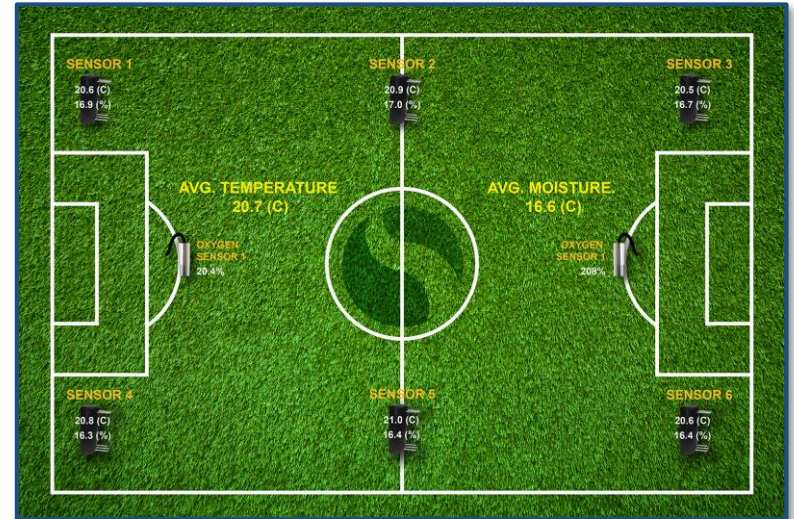
- Access field conditions and activate system operation via any internet connected device or Control Center
- Real time data of temperature, moisture, oxygen and salinity
- Control Center with high definition touch screen for simple, fast and flexible programming
- Cloud based data storage of historical soil sensor data and equipment operations
- Allow responsive, proactive field management
- Customize oxygen, moisture and temperature set points to automate system response
- Access immediate support from SubAir Technical and turf teams



TurfWatch™ All Access Plus

Wireless Monitoring and Communication

- Subsurface in-ground sensors have no impact on playing surface
- Full field conditions reported by 8 sensors
- Sensors relay data every 20 minutes to Control Center
- Dedicated wireless communication provides constant insight to field conditions, system operations and performance
- Proprietary integrated technology and programming



SubAir Sports Systems

SubAir Sport

Standard Installation

- Field Aeration Fan/Drive Motor
- Furnace – Heated Air Service
- Air Compressor
- Air Dryer
- Air Flow Reversing Valve
- Intake/Exhaust Louvers and Plenum
- In room ducting (up to 30 feet)
- All skids and stands required

Heated Air Feature

- Field Burner - Maxon 422M Ovenpak Burner
- Furnace /Burner controls
- Blower Motor
- NEMA-12 Control Panel
- Protectofier Flame Safeguard System
- Two (2) Honeywell UDC 2500 temperature controllers
- Two (2) Type J thermocouples
- Fuel Train and Burner Control System
- Two (2) airflow proving switches
- Communication interface with SubAir® TurfWatch™ Controller

TurfWatch™ All Access Plus

- HMI Touchscreen Controls
- Central Monitoring
- Programmable Logic Control (PLC)

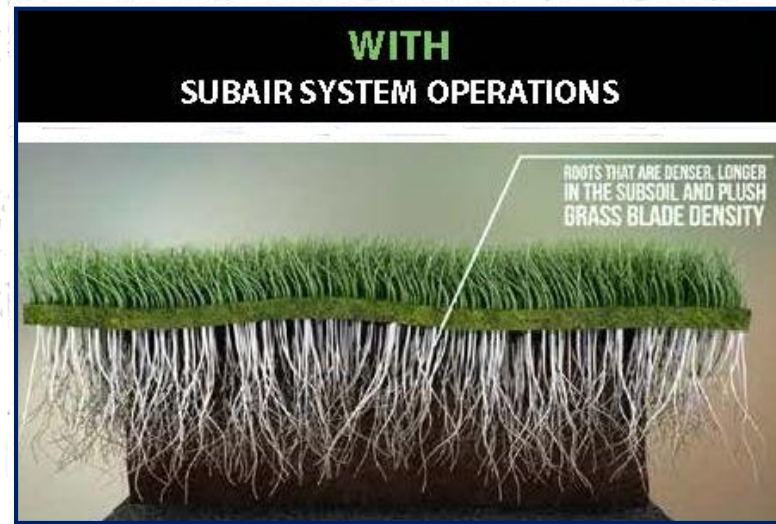
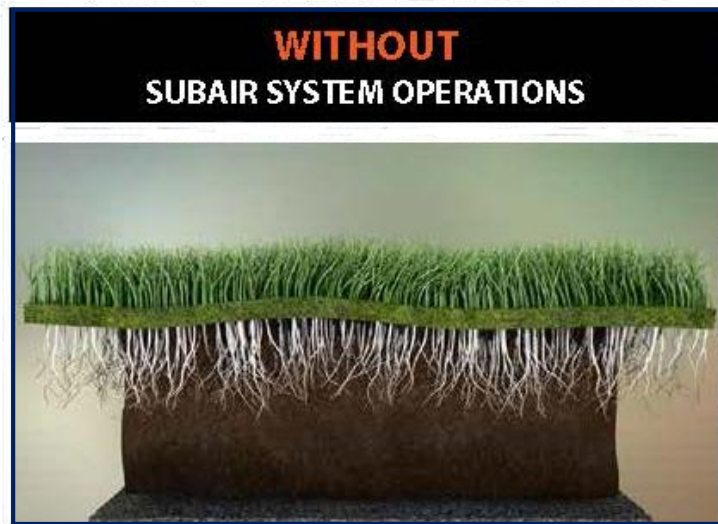
- In Ground Sensors
- Cloud Based Storage of Real Time Data and History
- Operations Access via Smartphone/Tablet/Computer

Design, Install Services

- Engineering and Installation Drawings
- Site supervision of assembly of pre-fabricated SubAir Sport System
- System commissioning after installation
- 15 Days for planning, installation and on site training

» Playing Field Surface Consistency

SubAir Sports Turf Solutions Proven Results



- With real time reports of field conditions, field supervisor can better maintain the quality of the entire playing field
- Allows shaded and non-shaded areas to grow more consistently
- Technology to evaluate field conditions and trends to optimize consistency throughout the playing field

» Player Safety

Predictable Footing, Improved Traction and the Give of Natural Turf is Important to Player Safety:

- More predictable footing due to stronger, deeper root system
- Drains 36x faster than natural drainage alone
- Literally NO PUDDLING
- Reduce re-sodding of turf during season with faster grass recovery



» Improved Owner Economics

Maximize Revenue From Outside Events

- Entire field subsurface ventilation when covered
- 50% faster turf recovery time after use or coverage of turf for events
- 80% less permanent damage after games and events
- Retain Sod Allowance Fee due to minimized sod damage
- Outside event managers (concerts) often pay turf replacement fees to venues to restore field playing conditions. Venue operations may negotiate to **retain the fee** even with the reduced damage due to subsurface ventilation .



**More Events
Higher Revenue**

» Improved Economics



Reduce Re-sodding



Eliminate Black Layer

Maximize Operations Efficiency

- Extend the growing season – No Rye Grass Overseed in Most Climates
- 50% faster turf recovery from cleat damage or turf covers
- Increase chemical and nutrient effectiveness
 - Greener, healthier grass
 - Eliminate Black Layer
 - Less environmental waste
- Recycling of excess water for later use
- 80% less permanent damage after games and events
- Reduce re-sodding



Every Level Of The Organization Benefits From SubAir Sports Total Turf Solution

OWNERS

- Want A Winning Team
- Loyal Fan Base
- Maximize Revenues
- Minimize Operating Costs

FIELD MANAGERS

- Equipment and Technology to do their job optimally
- Sensors and Controls for monitoring and proactive field management
- Real-time Reporting of temperature, salinity, oxygen and moisture levels
- Historical Data for trending and studies
- Remotely Access field conditions and Activate equipment operations

COACHES

- Consistent Playing Conditions
- Healthy Players
- Ability to Recruit Best Players

PLAYERS

- Predictable Footing
- Improved Traction
- Safest Playing Conditions





Field Installations



New York Mets
Citi Field - 2018
Queens, NY



New England Patriots
Pratice Fields - 2017
Foxborough, MA



FIFA WORLD CUP
RUSSIA 2018

List of Selected Clients



Wembley Stadium
London, UK



Real Salt Lake
Rio Tinto Stadium
Salt Lake City, UT



Kansas City Wizards
Sporting KC Park
Kansas City, KS



FIFA WORLD CUP
Brasil

Arena Fonte Nova
Salvador, Brazil
Arena Corinthians
Sao Paulo, Brazil
Estadio Beira-Rio
Porte Alegre, Brazil
Arena da Amazonia
Manuas, Brazil



New York Red Bulls
Redbull Stadium
Harrison, New Jersey



Denver Broncos
Sports Authority Field
Denver, CO



Toronto FC
BMO Field & Practice Field
Toronto, Ontario



Chicago Fire
Toyota Park
Chicago, IL



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I would wake up at night with the smell of the ballpark in my nose, the cool of the grass on my feet...

The thrill of the grass -

Shoeless Joe Jackson from 1989's "Field of Dreams"



SubAir
Turf Solutions Company