

ClimatePak® VHR Series

Environmental Control Systems

The ClimatePak VHR Series

The environmentally friendly and energy efficient VHR Series optimizes outside air usage to provide reliable, safe, and efficient environmental control for your indoor swimming pool facilities.



The energy efficient and reliable VHR Series provides you with the choice for outside air based indoor pool environmental control. The combination of premium features, outside air usage, and non-mechanical operation makes the VHR Series the choice for indoor pool facilities located at schools, universities, water parks, recreational complexes, athletic centers, and other similar locations in dry outside air climates.

THE OUTSIDE AIR BASED ENVIRONMENTAL CONTROL SYSTEM

The indoor swimming pool environment is a very aggressive and challenging climate. The indoor pool environment puts the safety of your swimmers, building, and equipment at risk. Without proper environmental control, the indoor pool atmosphere will damage your equipment and facilities, and harm the health of your swimmers. With the VHR Series environmental control system, you never need to worry about the protection of your swimmers, equipment, and facilities because the environmental control system provides:

Ventilation Control

- Maintains proper outside air ventilation in compliance with ASHRAE 62.1 health and safety codes.
- Improves the indoor air quality (IAQ) by removing chemical odors, controlling CO₂, and filtering out air-borne debris.

Pool Air Heating and Cooling

- Uses the outdoor air conditions to provide temperature control for the indoor pool environment at reduced operational costs.
- Maintains stable conditions resulting in reduced indoor pool water evaporation rates and improved energy savings.

Dehumidification and Humidity Control

- Industry-leading condensation prevention, protecting your facilities, assets, and swimmers.
- Provides dehumidification through the usage of outside air based ventilation, removing moisture and improving IAQ.
- Dew point based control maintains highly accurate and tightly controlled conditions for trusted swimmer comfort and safety.

Environmental and Energy Efficient Operation

- Proprietary developed vertical heat pipe provides improved energy efficiency for the entire system.
- Non-mechanical based operation improves system reliability and reduces the environmental impact of the system.

- For indoor pools with optimal outdoor air conditions.
- Supply air from 9,000 CFM to 50,000 CFM



Critical components are protected outside of the corrosive air stream



Energy efficient, low maintenance, powerful, direct drive fan systems



Electro-Guard® protective coil coating backed by a 10 year, best-in-class, unconditional warranty



External casing backed by the premium 20 year factory warranty



The exclusive ControlAir™, proprietary developed, programmable control system



Elite swimmer, spectator, asset, and building protection



Tested system construction resulting in improved reliability and durability in the aggressive indoor pool environment



'Cold-Wall' Sensing Technology™ for unrivaled condensation prevention



Precision air flow management provides automatic air balancing and improved ventilation performance



Environmentally sustainable and energy efficient equipment operation processes



Virtual-Tech® Plus secure remote access and wireless monitoring system



Proven energy, service, and operational expense savings



2 inch double wall, closed cell, foam filled panels and the WeatherGuard™ package for trusted system protection



Custom-designed vertical heat-pipe providing strong energy recovery performance



OPTIMUM OUTSIDE AIR USAGE

The VHR Series provides the ability to maximize the use of outside air for dehumidification and temperature control. Outside air helps to provide the most comfortable conditions and best IAQ for your indoor swimming pool, while working to remove moisture from the air. The ControlAir PCS establishes the proper amount of outside air in order to maintain environmental control and meet the ventilation, health, and code requirements of ASHRAE 62.1.

Controlling the humidity of the space using outside air is an effective strategy. Minimum amounts of outside air are brought into your pool space to maintain comfortable conditions. As the humidity level of the outside air varies, specific system operations optimize the usage of the outside air to provide safe and comfortable conditions for your indoor pool facilities.

As the humidity is being controlled through outside air usage, so is the temperature. As dry outside air is brought into the pool space, that air has a temperature. Cooler outside air helps to maintain comfortable space conditions while warmer outside air can be supplemented by auxiliary cooling systems to maintain comfortable conditions.

Precision Air Flow Management

The VHR Series provides the latest in precision airflow management using proven, process grade airflow monitoring stations, outside air sensors, and variable speed fans. The ControlAir PCS integrates the precision air flow management features with the control software to optimize real-time air balancing and monitoring by automatically adjusting all airflows within the system.

- Maintains proper outdoor air ventilation requirements in compliance with ASHRAE 62.1.
- Effective and reliable ventilation control provides increased occupant comfort and safety while improving IAQ.
- Automatic air balancing assures proper airflow and control during all events and operational modes.
- Improved system lifespan and cost savings through maintaining optimal system operating conditions.



LOW COST POOL ROOM CONTROL

The traditional approach to pool room dehumidification utilized excess amounts of heating and ventilation to dilute the air in the pool room. Such a system works since the pool room air is being totally exhausted and replaced by fresher, drier, outside air. 'Dilution as the solution' is an expensive process and does not always remove chemical odors or stifling humidity.

Running a pool room at 100% outside air continuously, especially during the winter, is a very expensive method of environmental control. Incoming outside air requires considerable auxiliary heating in order to maintain desired space temperatures and, as the dewpoint in the space drops, the pool water evaporation rate and heat loss accelerate. This means that your pool will require additional pool water, chemicals, and heat to maintain proper and safe conditions. This will greatly increase your operational and maintenance expenses while reducing the quality of your pool facilities.

The VHR Series environmental control system relies on the ControlAir PCS along with precision airflow management to maintain comfortable and safe conditions using outside air, while reducing your costs as much as possible. Instead of 'dilution as the solution' the VHR Series matches the outside airflow to the humidity demands of your indoor pool facilities, maximizing the value of outside air. With built-in compressorless air to air heat recovery, the VHR Series greatly reduces auxiliary air heating and operational costs.

While working to improve your IAQ, reduce your costs, and maintain a safe and comfortable environment for your indoor pool facilities, the VHR Series also provides:

- Dehumidification and humidity control
- Pool room space heating with auxiliary heat
- Proper ventilation and improved IAQ
- Energy recovery and recycling
- Optional indoor pool space cooling
- 'Cold-Wall' condensate prevention system

DURABLE SYSTEM CONSTRUCTION



1 Protected Critical Components

Critical components within an environmental control system can be damaged by the indoor pool atmosphere. The VHR Series protects these vital components through system design.

- Components like the controls and VFDs are located in isolated compartments.
- The isolated compartments are easy to access and are well protected from the corrosive air stream.
- Critical component protection greatly improves system reliability and the projected system lifespan.

4 Electro-Guard® Coated Coils

Due to high levels of humidity in your pool room, corrosive, moisture laden air is always moving through the system, leading to an increased chance of component failure. With the optional Electro-Guard coil coating, you never need to worry about coil failure.

- Electrostatically applied to provide an even, consistent, barrier against corrosion.
- Provides a chlorine-resistant barrier for your system which prevents coil failure.
- The Electro-Guard Plus coating is also hydrophilic, improving dehumidification performance.
- Backed by the industry-leading 10 year unconditional warranty.

2 Proprietarily Developed Vertical Heat Pipe and Damper System

The vertical heat pipe and damper system provides the VHR Series with improved energy efficiency, environmentally friendly processes, and reliable operation.

- Provides assured energy efficiency, with up to 65% energy recovery.
- Frost control designed for trouble-free and effective operation in the coldest climates.
- Corrosion resistant and low maintenance construction and design.

5 Direct Drive Fans

Featuring direct drive fans with VFDs, the VHR Series uses the latest in technology to provide the best performance, control, and protection for your indoor pool facilities and swimmers. The direct drive fan improve system performance, provide increased reliability, and save you operational and energy costs.

- Maximized air flows improve indoor pool dehumidification performance.
- Features the latest in energy efficient product design and technology.
- Safe and effective performance saving you operational and service costs.
- Maintains consistent and comfortable indoor pool conditions.
- Reduces the weight and size of the environmental control system.

3 Double Wall, Closed Cell Foam Panel Construction

The cabinet construction of the VHR Series is specially designed and highly effective for indoor pool facilities.

- Two inch, double wall, closed cell foam filled panels mounted to an extruded aluminum frame.
- Rigid wall panels minimize air loss and infiltration, improving system performance.
- Uses superior light-weight insulation materials, improving thermal resistance and sound dampening.

6 WeatherGuard™ Protection Package

The VHR Series is designed for elite weather protection, whether its final location is indoors or outdoors. During transportation and facility construction, your system is susceptible to outdoor weather conditions. The WeatherGuard protection package is built into the VHR Series to safeguard your system from the elements while extending its operational lifespan.

- A long lasting, UV and ozone corrosion resistant roofing membrane protects your system from rain infiltration.
- For curb mounted, outdoor systems, there is self-flashing, overhanging base which prevents weather based water leaks into your building and system.
- A sloped diamond plate aluminum floor, with a central drain channel, protects the bottom of your system and allows for complete system cleaning.

CONTROLAIR™ MORE THAN HUMIDITY CONTROL

The VHR Series features the PoolPak ControlAir programmable control system, the industry's leading indoor pool control software and system. The ControlAir system utilizes hundreds of tangible and measurable data points to provide complete environmental control and protection for your facility, assets, and swimmers that is more than just humidity control.

Proprietarily developed using decades of experience controlling the indoor pool climate, the ControlAir system uses 'real-time' software control strategies to provide complete and accurate control of your indoor pool environment across a wide range of operating conditions.

Dew Point Based Control

The unique dew point based control strategies are only available through the ControlAir system. The software and control systems work together to monitor the dew point of your indoor pool space and make slight adjustments to maintain safe and comfortable space conditions. The best-in-class value of the ControlAir dew point based control system is a result of:

- **Safe and Effective Protection**

The ControlAir system prevents the room conditions from ever reaching the dew point, and therefore, eliminates damaging condensation formation, protecting your assets.

- **Energy Efficient Operation**

Slight set point adjustments are only made when necessary to maintain stable conditions, improving energy efficiency.

Alternative Modes of Operation

The indoor pool space is affected by the current indoor climate, the pool usage, and the outdoor conditions. Maintaining proper environmental control requires meeting specific needs for cooling, heating and ventilation. With the ability to schedule 84 modes, the ControlAir system is able to maintain a safe and effective indoor pool environment. In basic operational mode, a balance of energy savings and system performance is in place for improved comfort and cost savings.

- **Event Mode**

For heavy pool usage. Provides maximum environmental control while accounting for outside air ventilation requirements and energy costs.

- **Unoccupied Mode**

For no pool usage. The supply fan out is dialed back by 20%, resulting in 50% fan energy savings. This is highly effective for overnight as well as during summer breaks.

- **Summer Mode**

Manually activation for natural ventilation. Allows doors and windows to provide fresh air ventilation while the system provides exhaust and energy recovery operations.

- **Purge Mode**

For quick pool room air exhaust. Quickly replaces pool room air with fresh air, highly effective for maintenance operations.

'Cold-Wall' Sensing Technology™

The PoolPak exclusive 'Cold-Wall' Sensing Technology system works to provide you with a tightly controlled indoor pool environment. This system utilizes a remote temperature sensor that is placed on the coldest interior surface of the pool room. This surface is where damaging condensation will form first. The sensor relays temperature data back to the ControlAir system, which adjusts the equipment's performance to ensure the dew point remains below the temperature of the 'cold-wall.' This provides your facility with trusted condensation prevention and proven asset protection.



Controls Integration

The ControlAir system has the capability to integrate with several different systems to maximize the value of your environmental control system.

- **Building Management Systems (BMS or BAS)**

BACnet IP or MS/TP, Modbus, and Lonworks integrations.

- **Multi-Unit Networking**

Control multiple PoolPak systems from a single controller.

- **Virtual-Tech Plus**

Operational results and room set points can be accessed via the web-based remote access system.

- **Factory Access**

PoolPak Factory Authorized Service Technicians can use Virtual-Tech to have safe and secure access to do remote diagnostics and update the software on your system, saving you the cost of service site calls.

SERVICE AND SUPPORT

The VHR Series is designed for easy regular service and support. The entire system is built for reliability and has a projected product lifespan more than the 15 year industry average.

- The components selected to construct the system are all tested and proven within the aggressive indoor pool atmosphere.
- System design incorporates trusted components and additional space to make system service quick and easy.
- Non-mechanical operation eliminates refrigeration system services and improves the reliability of the VHR Series.

WARRANTIES

VHR Series systems are durable and reliable systems, and are backed by some of the best warranties in the industry:

- Parts are backed for 25 months after the date of shipment.
- The external wall panel construction is warrantied for 20 years after the date of delivery.
- The Electro-Guard coil coatings provide premium corrosion resistance and come with a warranty that backs the coil component for 120 months, unconditional of pool water chemistry.

GEOGRAPHICAL APPLICATIONS

As the VHR Series maximizes the usage of outside air, the regional climates have a noticeable impact on the performance of the system. Additional modules maybe required to maintain proper conditions for your indoor pool environmental using the VHR Series, including:

Integral Heating Options

- Hot Water Coil
- Gas Furnance

Integral Cooling Options

- Chilled Water Coil
- DX Refrigeration Coil with Remote Condensing Unit

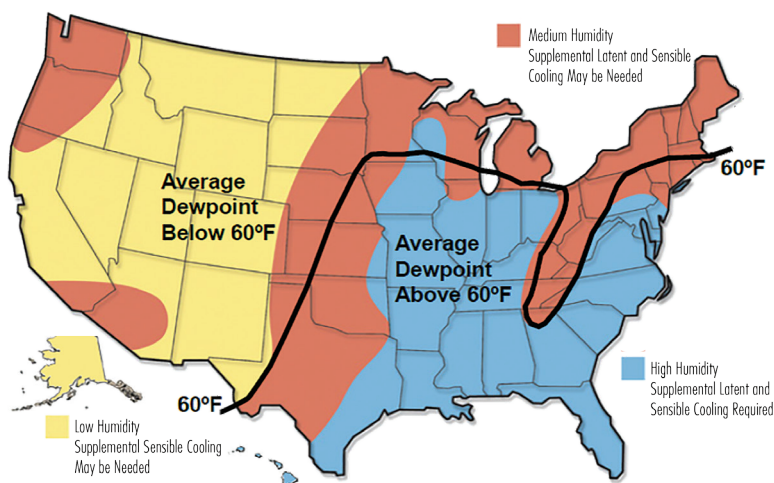
PERFORMANCE SUMMARY

ClimatePak® VHR Series	TYPE	015	020	030	040	050
Moisture Removal Capacity Outside air at rated conditions	Lb./Hr.	162	360	540	720	900
Outside Air Provision Maximum Outside Air	CFM	9000	20000	30000	40000	50000
Supply Air Provision Maximum Supply Air	CFM	15000	20000	30000	40000	50000
Compressor Input Power	KW	0.0	0.0	0.0	0.0	0.0

The ClimatePak® VHR Series is a non-compressorized dehumidification solution.

Rated Conditions | Pool room air: 84°F / 60% R.H. | Pool Water: 80°F | Average outside air dew point 60°F

Due to continuous development the right to alter specifications without notices is reserved. E&OE



THE POOLPAK PROVEN APPROACHSM

An indoor swimming pool is a very challenging atmosphere for environmental control systems. The chemicals that are used to keep your swimmers safe, can cause a great deal of chemical based corrosion. Swimming pool accessories like railings and diving boards, your indoor swimming pool structure and facilities, and the health of your swimmers and spectators can be damaged or harmed by a poorly controlled indoor pool environment.

With the PoolPak Proven Approach, you never have to worry about a poorly controlled environment. The safety of your swimmers, your building, and your pool accessories can be trusted to PoolPak. The Proven Approach works to provide you with the system and the support to overcome any challenge within your indoor pool environment. The Proven Approach ensures that the system you purchase is proven and tested for the indoor pool environment to provide safe and effective environmental control performance.



THE INDUSTRY'S LEADING SUPPORT NETWORK

Providing you with a complete solution for your indoor pool environmental control challenges goes beyond temperature and humidity control. The best products need more than just high quality design, parts, and construction. They need a trusted service and support network that is quick and easy to work with, while being an authorized and proven partner. For that reason, PoolPak has invested resources into developing the industry's leading support network.

The best-in-class support and service network has been assembled with the knowledge, skills, and availability to help you overcome any challenge. The network spans service and support for your product before, during, and after the sale. PoolPak is committed to your success, with teams of proven, well-trained, and deeply knowledgeable service and support staff available to work with you to achieve the best, safe and effective results for your indoor pool facilities and swimmers.



The best single point-of-contact field system and service consultants



Experienced and dependable product and application installation professionals



Certified and knowledgeable Factory Authorized Service TechniciansTM (F.A.S.T.)



The powerful and secure Virtual Tech[®] & 'Lynx'TM web based remote access systems



Secure and trusted system financing and leasing partners.



Proven and skilled indoor pool application and design experts.



The exclusive and effective Build-On-SiteTM installation team.



Tested and certified technical service education programs



The easy to access and free digital resource and education center



Live and dependable, factory based sales and support team

With more than 45 years of experience in indoor pool dehumidification equipment manufacturing, PoolPak LLC is the most well-known brand in the industry. Our people and products work daily to improve the quality and comfort of indoor pool environments. PoolPak dehumidification solutions include a variety of heating, ventilation, and air conditioning systems, in addition to an industry-leading PoolPak support network. For more information, please visit www.PoolPak.com.



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