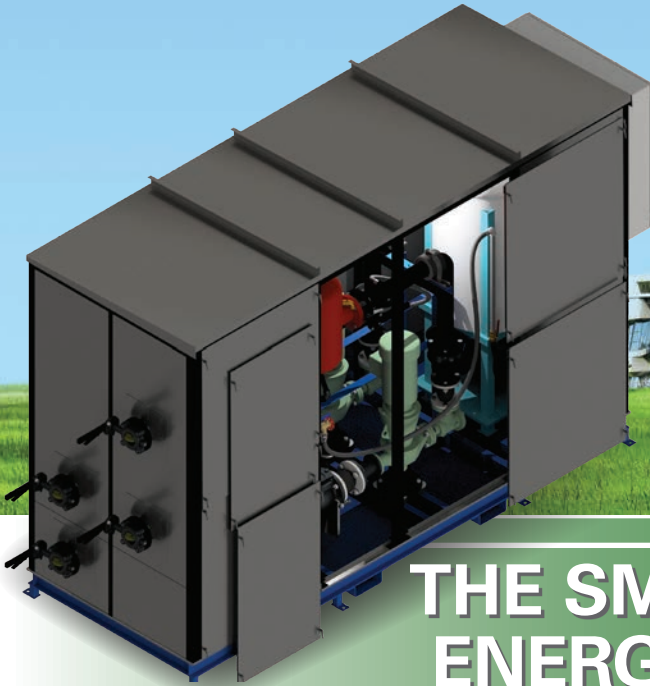




HEAT PIPE TECHNOLOGY



# THE SMART™ WATER-GLYCOL ENERGY RECOVERY SYSTEM FROM HPT™



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## A FLEXIBLE ERS FOR COMPLEX CONDITIONS DESIGNED BY ENERGY RECOVERY EXPERTS

An innovative leader in energy recovery for dehumidification and zero cross contamination applications, HPT is the leading supplier of passive solutions to hospitals, laboratories, processes, and schools. For over 35 years, HPT has supported diverse applications and developed optimal heat exchanger designs.

The SMART™ Water-Glycol Energy Recovery System (ERS) expands on HPT's AHRI 1060 Certified Passive Heat Pipes to solve applications with more than two airstreams, airstreams separated by greater than 120 ft, and where gravity makes a passive solution impractical.

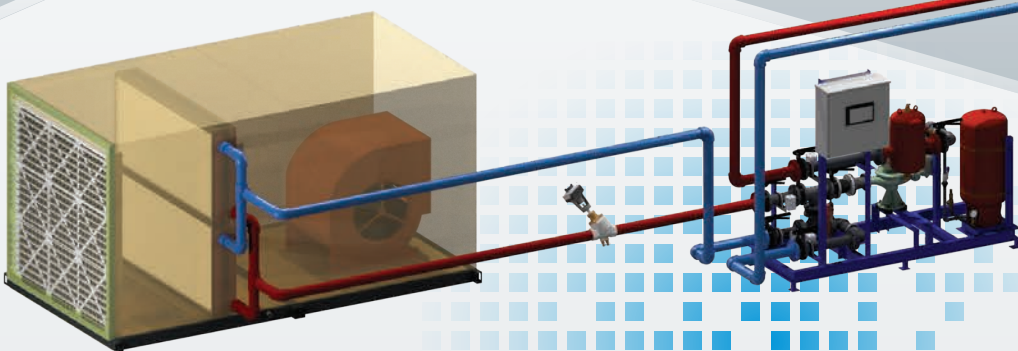
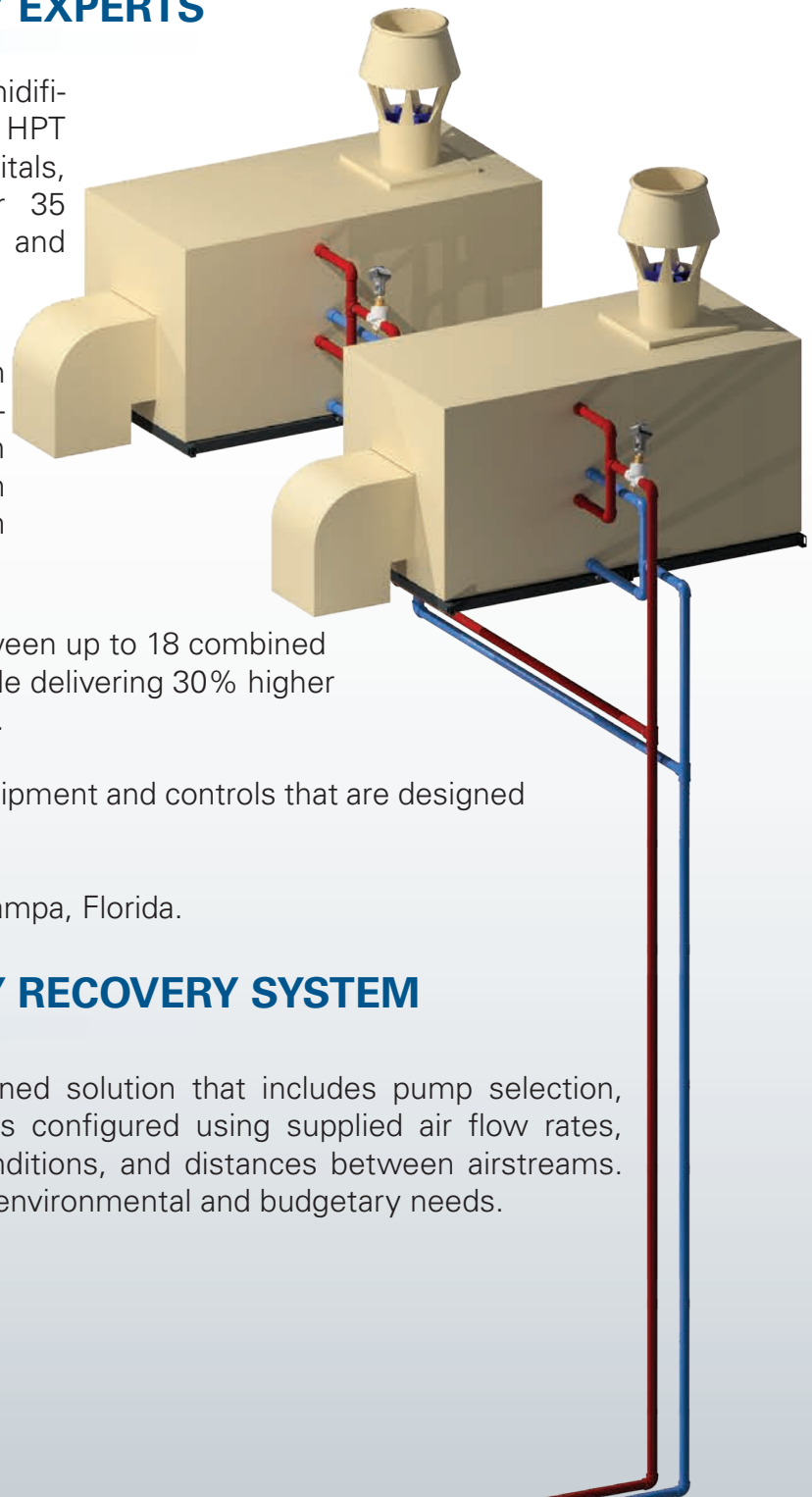
HPT's pumped glycol system recovers energy between up to 18 combined supply and exhaust airstreams, using one skid, while delivering 30% higher performance than a traditional "stick-built" solution.

A pre-engineered approach delivers mechanical equipment and controls that are designed to optimize flow through high-performance coils.

The skid, controls and coils are all built by HPT, in Tampa, Florida.

## SMART™ WATER-GLYCOL ENERGY RECOVERY SYSTEM

The SMART™ Water-Glycol ERS is a fully-designed solution that includes pump selection, controls sequence, and coil designs. The ERS is configured using supplied air flow rates, seasonal conditions, unit geometries, supply conditions, and distances between airstreams. Each module is configured to match the project's environmental and budgetary needs.





## LEARN MORE

See the results of independent, third-party testing using AHRI standards.



## RELIABLE ENERGY EFFICIENCY TO MAXIMIZE ROI

As an authority on energy recovery, HPT designs and builds sensible air-to-air energy recovery systems that uniquely serve cross-contamination sensitive applications, such as hospitals, laboratories, processes and grow facilities.

The ERS package is configurable, flexible, and reduces the build schedule by being available to ship as a factory-built, inspected and tested system. This eliminates the quality and scheduling risks associated with onsite builds. An HPT pre-engineered system is a custom solution with standardized pricing that integrates into a retrofit with older infrastructure just as easily as it does into a new build with BAS.

The intuitive controls provide a turnkey solution that reduce implementation time on the build site, further reducing schedule and contractor cost, and simplify operation and maintenance.

Every SMART™ Water-Glycol ERS is backed by a 5-year system warranty and all skid components are sourced through HPT, providing a single point of contact through life.

**Scan the QR code above** to see the results of independent, third-party testing and learn how our zero cross-contamination solution improves indoor air quality (IAQ) while delivering 30% better performance than on-site built systems.

An added benefit... our coils are designed specifically for energy recovery and their lower flow means that smaller pipes can be used between coils, further saving space and cost.

## PRE-ENGINEERED SOLUTIONS MAKE SELECTIONS A BREEZE

HPT's unique design process eliminates the traditional iterative selection approach by providing the full system design, not just coil selections, in hours not days.

Complex, multi-airstream configurations often mean greater effort during design, as the design of one airstream impacts another. To streamline and shorten the design phase, HPT's automated proposal process quickly delivers robust, early design concepts that include performances, coil and skid drawings, P&IDs, and component cutsheets.

An HPT pre-engineered solution saves time and money without compromising performance. The SMART™ Water-Glycol ERS supports ASHRAE 90.1 Section 6.5.7.3 requirements by delivering sensible effectiveness >50%.

For more information, visit [www.heatpipe.com](http://www.heatpipe.com)

# ACTIVE SUPPORT DELIVERS FIRST-CLASS RESULTS

HPT's expertise in heat exchanger design and manufacture, provided the foundation to develop a superior water coil. HPT's coils are designed specifically for energy recovery and the wide range of temperature conditions seen across seasons.

Each SMART™ Water-Glycol ERS is expertly engineered, from system design to the control sequence. Every aspect is designed to support the goal of streamlining the selection process and delivering optimal results.

## Streamlined Selection, Superior Result

- Coil-centered design supported by proprietary performance algorithms that deliver combined performance of coils in up to 18 airstreams in seconds.
- Flow rate driven skid selection from pre-engineered options
- Preliminary calculations include head loss budgets to support swift initial selections that are perfected in the final design process
- Off-site modular approach that delivers a full skid with factory installed, ready to use hydronic and electrical components and skid mounted sensors.

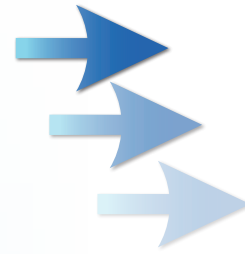
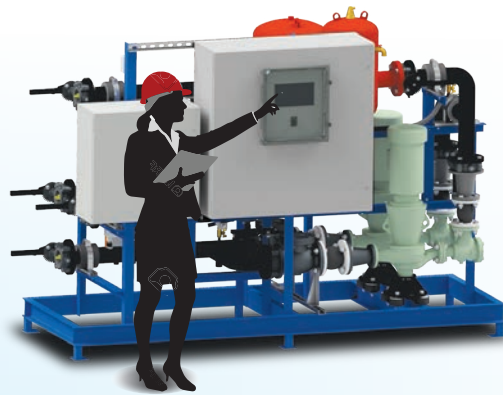
### LEARN MORE

See how we make a selection



### LEARN MORE

See the SMART Water-Glycol Energy Recovery System specification



Up to 51 GPM  
Up to 30,000 CFM

Up to 113 GPM  
Up to 70,000 CFM

Up to 210 GPM  
Up to 130,000 CFM

2 Airstreams

2" Skid

3" Skid

4" Skid

Multiple Airstreams

3" Skid

4" Skid

Indoor/Outdoor

Indoor

Panelized Cladding

Pumps

2 Pumps

# A COMPLETE, CONFIGURABLE SOLUTION



## Robust Selection and Proposal Package

- Airside and fluid temperature performance in all airstreams
- Skid drawings
- P&ID
- Electrical drawings and control sequence

## Pre-Engineered, Factory Built and Tested Mechanical Skid includes

- Pumps & VFDs
- Expansion Tank
- Air Separator
- Filters
- Pressure Relief Valves
- Control Valves
- Temperature & Pressure Sensors

## Intuitive, Touch-Screen Control Panel

- Skid-mounted
- BACnet and Modbus connectivity via Ethernet or MS/TP

## Best in Class, Proprietary HPT Coils

- Designed specifically for air-to-air energy recovery
- Founded on decades of experience developing heat pipes
- Developed in HPT's R&D facility

## Outdoor Protection

- Panelized Cladding on 2"- 6" skids
- Enclosures for 8" and 10" skids
- All covered skids are heated

## Flexible Configuration Options

- Vibration pads/spring isolators
- Modular skid selection on 8" and 10" skids
- Optional glycol makeup
- 6 or 8 row coils
- Heat injection to replace airside heating coil



Up to 306 GPM  
Up to 190,000 CFM

Up to 469 GPM  
Up to 290,000 CFM

Up to 816 GPM  
Up to 500,000 CFM

Up to 1,291 GPM  
Up to 800,000 CFM

5" Skid

6" Skid

8" Skid

10" Skid

Indoor

Panelized Cladding

Enclosure

2-3 Pumps

2-4 Pumps

# GET TO KNOW OUR SMART™ WATER-GLYCOL ERS

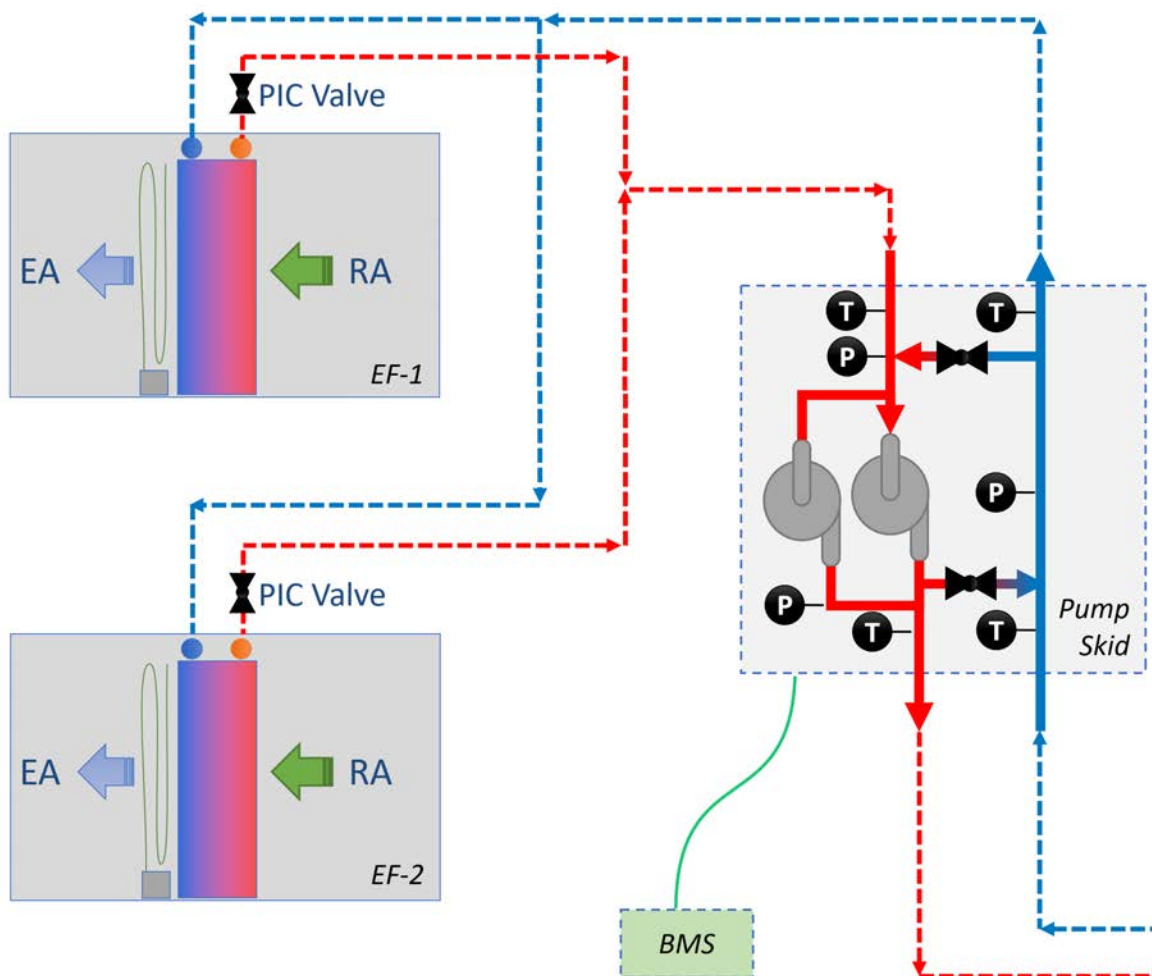
The SMART™ Water-Glycol ERS controller responds to changes in outside air conditions and regulates the fluid delivered to each coil to optimize energy recovery.

## Simplified Setup for Fast Controls Launch

- Valves and air temperature sensors connect to skid controller
- Connect power to electrical enclosure
- Provide enable/disable dry contact signals for each airstream

## Controls Pump Flow

- Monitor and manage multiple (N+1) pumps
- Distribute run hours evenly over pumps
- Varies pump speed and activity to manage fluid supply to coils
- Auto-switches to backup pump and supplies BAS notification



## Protects Each Exhaust Airstream

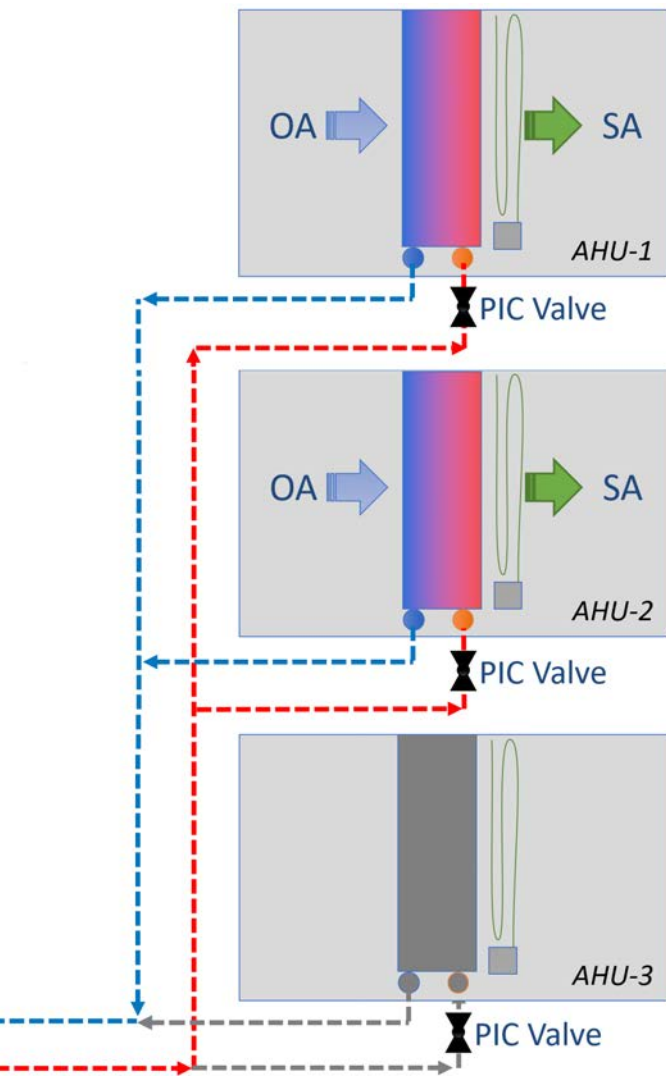
- Prevents frosting on exhaust air coils during extreme cold
- Dedicated EA set point for each airstream
- Maintains exhaust air temperature above EASP
- Activate/deactivate exhaust coils in response to AHU fan activity

## Communicates with BAS

- Uses BACnet or Modbus and connects via Ethernet or MS/TP
- Shares performance, VFD points, operating data, and alerts
- Modify set points and override airstream valve positions remotely

## Control Each Supply Airstream Independently

- Valves regulate flow to maintain temperature
- Dedicated SA set point for each airstream
- PIC valves balance flow between coils
- Activate/deactivate supply coils in response to AHU fan activity

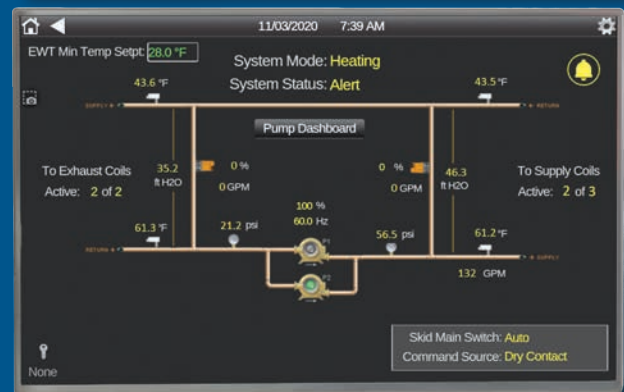
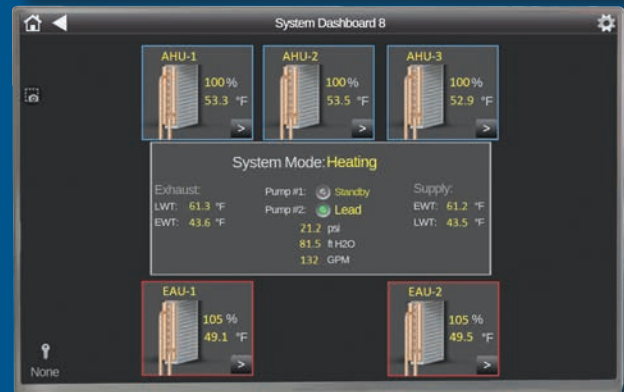


## Manages System Performance

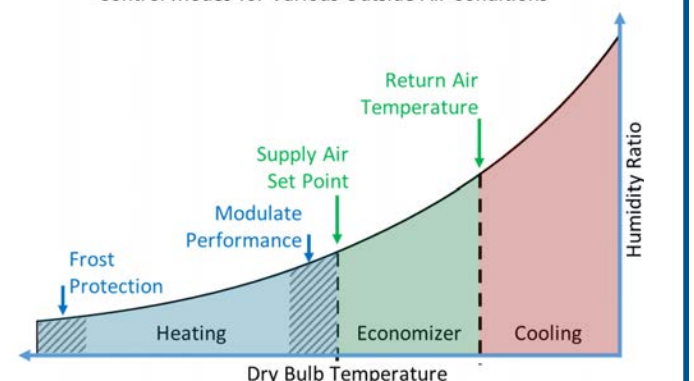
- Detect and react to changing temperature conditions
- Sleep-Mode during no-flow periods to save energy
- Bypass fluid around coils to provide pump and frost protection

## Intuitive Touchscreen Interface

- View all operating data in one place
- Insightful system and airstream layout
- Manage set points
- Initiate manual overrides



Control Modes for Various Outside Air Conditions





**CONTACT US FOR YOUR  
NEXT PROJECT**



advanced energy recovery and dehumidification

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