

 **ATHERION™**

**STEP INSIDE FOR A BREATH OF FRESH AIR.**

Designed to provide significant outdoor ventilation air to any space.

 **MODINE**

## INTRODUCING ATHERION.

In mythology, the name refers to the purified air only the gods could breathe.  
In reality, it's the way Modine brings the fresh air from outside into your workplace.



Meets latest ASHRAE 189.1 and 62.1 standards  
for efficiency and indoor air quality.



## **MODINE RAISES THE BAR.**

For nearly 100 years, Modine has been the leader in technology and engineering in the HVAC industry. Responding to customer demands and the changing needs of the industry, Modine is proud to announce the addition of the Atherion, its new commercial packaged ventilation system with optional energy recovery.

Designed for ease of installation, energy efficiency and durability, the Atherion provides customers with a state-of-the-art solution for their dehumidification and ventilation needs.

A man in a dark suit and tie is sitting at a small, light-colored wooden desk on a snowy mountain peak. He is looking at a laptop computer. The background is a vast, snow-covered mountain range under a blue sky with scattered white clouds. The scene is bright and clear, suggesting a high-altitude, clean environment.

**STEP INSIDE FOR A BREATH OF FRESH AIR.**

# RAISE YOUR COMFORT LEVEL ... TO THE ROOF

The Atherion is the ideal solution to bring fresh, tempered outside air into your facility, regardless of your geographic location.

Whether you are in the humidity-soaked air of the Southeastern United States, in the drier, milder air of the West, or the four-season-friendly confines of the upper Midwest and Northeast, the Atherion can be customized to meet your outside ventilation air requirements. And by including the advanced Energy Recovery Module option, your system becomes a high efficiency, 100% dedicated outside air unit, potentially saving you thousands in annual energy costs.

Atherion 15-30 ton Commercial Packaged Ventilation System



Energy Recovery Module option



## CONSTRUCTION

### 1 Robust 2" Double-Wall Construction

- 2" double-wall and weather-proof roof, floor and wall construction provides up to R8 insulation for energy efficiency and IAQ
- Standing roof seam for strength and durability
- Aluminized steel cabinet construction

### 2 Baked-on, Post-Fabrication, Pre-Assembly, Polyester-Powder Paint

- Provides superior corrosion resistance
- Tested to meet ASTM specs
- Electrostatically applied polyester-powder paint provides superior corrosion resistance for extended equipment life

### 3 Full-Length, Piano-Hinged Access Doors for Easy Access

- Easy to open quarter turn latches
- Double-wall construction protects insulation and ensures durability during maintenance

### 4 Stainless Steel, Double-Sloped Drain Pan

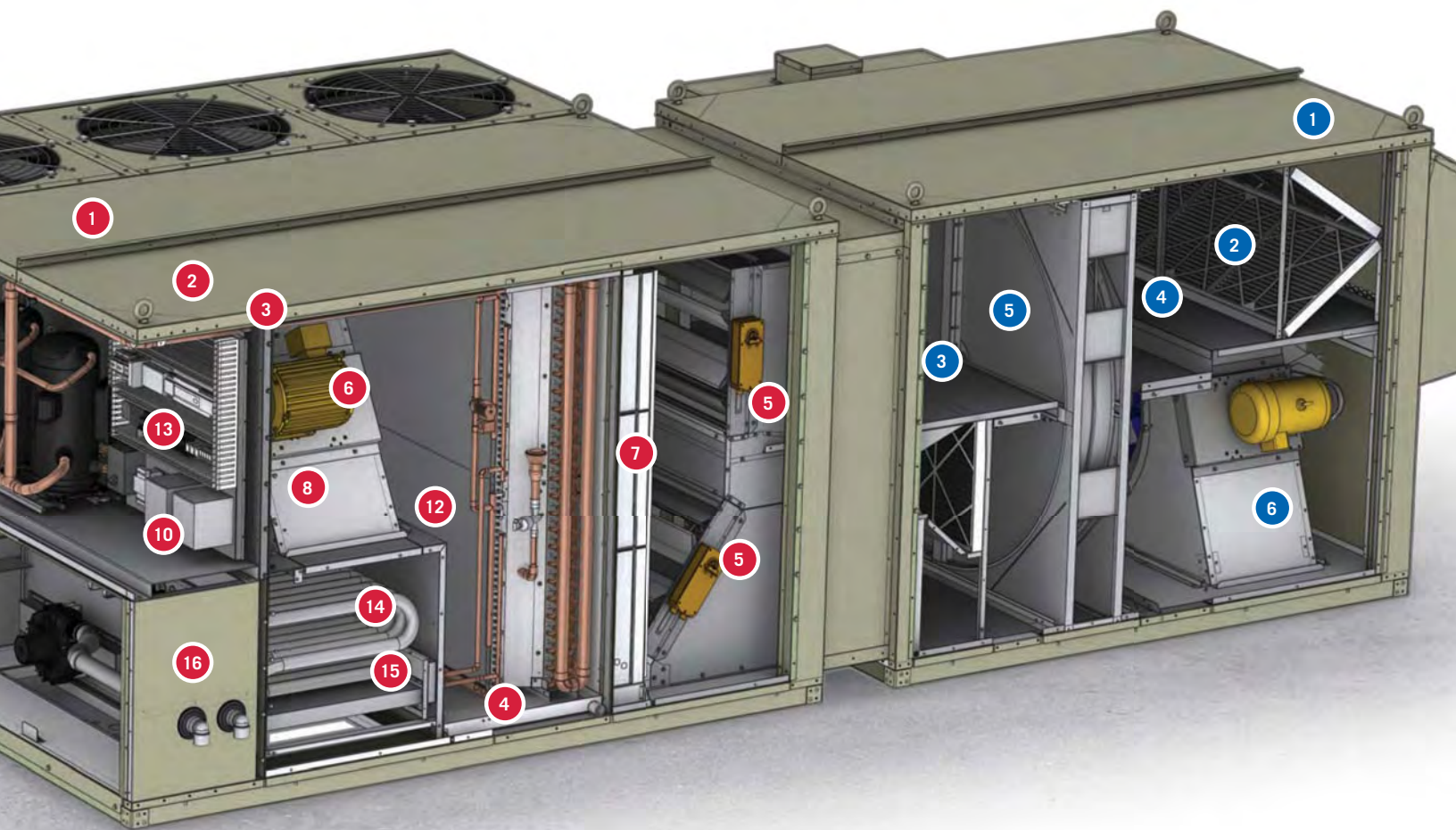
- Prevents corrosion
- Avoids standing water for high IAQ

## AIR FLOW MANAGEMENT

### 5 Low Leak Air Dampers

- 4cfm/ft<sup>2</sup> to meet the latest ASHRAE Standards 189.1 and 90.1-2007
- Air foil blades
- Blade edge and jamb seals
- Provides up to 100% outside air
- Direct drive damper controls





#### 6 Energy Efficient Airfoil Plenum Fan

- a. Energy efficient, quiet, slide-out and pivoting blower assembly with auto belt tensioner
- b. NEMA premium efficient motor is standard to meet Energy Independence and Security Act requirements

### FILTRATION

#### 7 Best-in-Class MERV16 Filtration

- a. 2" pre-filters up to MERV 15
- b. 4" final filters up to MERV 16
- c. Significantly lower air-side pressure drop with Modine's proprietary final filters (0.25" at 12,000 CFM) requires less motor energy

### SERVICEABILITY & MAINTENANCE

#### 8 Energy Efficient Airfoil Plenum Fan

- a. Slide-out and pivoting blower assembly with auto belt tensioner on airfoil plenum fan for easy service

### REFRIGERATION CIRCUIT

#### 9 PF™ Microchannel Condenser Coils from the Company that Invented them – Modine

- a. Reduced depth for lower air side static pressure and lower refrigerant volumes
- b. Improved corrosion resistance between fin, tubes and headers
- c. Ideally suited for the high refrigerant operating pressures found in R410A

#### 10 Modulating VFD Head Pressure Control

- a. Regulates refrigerant pressure for use in low ambient temperatures
- b. Provides energy savings when the fans are running at reduced speeds

#### 11 Modulating Tandem Digital Scroll Compressors are Standard

- a. Fully modulating tandem digital scroll compressor down to 5% capacity for maximum efficiency at turndown conditions and high part load efficiency

#### 12 Modulating Hot Gas Reheat

- a. Provides enhanced supply air temperature control during dehumidification without using additional energy

### CONTROLS

#### 13 Modine Control System

- a. Factory designed, programmed, and installed integrated control system provides interoperability with all popular network communication protocols, such as BACnet or LonWorks, for easy integration into building automation systems

### HEATING

#### 14 Standard Stainless Steel Heat Exchanger

- a. Ensured long life with stainless steel tubular heat exchanger for maximum heat transfer – up to 100°F temperature rise
- b. Available modulating capacity turndown ratio to 15% of full capacity (30% turn down per furnace)
- c. Gas heat also available with supplemental electric heat for enhanced discharge air temperature control

#### 15 Optional High Efficient Gas Heating Option

- a. 90% efficiency with Modine's proven Conservicore™ Technology – up to 100°F temperature rise

#### 16 Optional Electric Heat

- a. Multi-stage and SCR control (up to 100kw)



Thanks to the Atherion's ability to heat, cool and dehumidify outside air for ventilation, occupants in a classroom, office or commercial/industrial setting remain comfortable.

## ENERGY RECOVERY MODULE

- 1 Maximum of 8,700 CFM outdoor air with optional built-in bypass for efficient economizer operation
- 2 MERV10 fresh air filters
- 3 Low static pressure with higher efficiency
- 4 Optional pre-heat for frost control
- 5 4Å Zeolite Coated Aluminum Wheel
  - a. Unlike silica based desiccants on polymer substrates, this wheel absorbs no odors while providing outstanding heat transfer
- 6 Serviceability and Maintenance
  - a. Slide out energy wheel and exhaust blower/motor access panel

# SPECIFICATIONS

Basic Unit Capabilities	Cabinet	Cabinet C			
	Model Size (Nominal Tons)	15	20	26	30
	Airflow Range (CFM)	3000-12000			
	Voltages Available (60Hz)	208V/3ph, 230V/3ph, 460V/3ph, 575V/3ph <sup>1</sup>			
Controls	Control System	Modine Controls featuring Carel			
	Control Hardware	Carel PCO3			
	Optional Communications	BACNet® MS/TP or Ethernet, LonWorks® FTT-10			
Cooling System	Compressor	Modulating Tandem Digital Scroll			
	Modulating Range	5-100%			
	Evaporator Coil	High Capacity 4 Row, 14 FPI			
	Condenser Coil	PFT™ Aluminum Microchannel			
	Condenser Fans	High Efficiency Cast Aluminum			
	Condenser Fan Qty	2	3		
	Condenser Fan Motors	NEMA Premium Efficiency, TE, 1-1/2HP			
	Head Pressure Control	Variable Frequency Drive			
	IEER Part Load Efficiency	Meets or Exceeds ASHRAE 189.1			
Hot Gas Reheat (Optional)	Hot Gas Reheat Coil	1 Row, 2-Circuit (patent pending), 14 FPI			
	Modulating Range	0-100%			
Heating Section (Optional)	Natural Gas Heat Options	300, 400, or 500MBH, Optional 20kW SCR Aux			
	Efficiency	80% or 90%+ (Condensing) <sup>2</sup>			
	Heat Exchanger Type	Tubular 409 Stainless Steel with Inshot Burners			
	Staging	Modulating, 30 to 100% <sup>3</sup>			
	Maximum Temp Rise	100°F			
	Electric Heat Options	20, 40, 60, 75, 80, or 100kW			
	Staging	Staged or Full SCR Modulating			
Supply Blower	Blower Type	High Efficiency, Backward Inclined, Airfoil Plenum Fan			
	Blower Qty	1			
Primary Filtration	Blower Sizes (Diameter)	20" or 28"			
	Drive	Belt Drive with Auto Tensioner			
	Blower Motor Range	1 - 15HP, NEMA Premium Efficiency ODP and TE			
Secondary Filtration (Optional)	Filter (Qty) - Size	(9) - 20" x 20" x 2"			
	Filter MERV Ratings	10, 13, or 15			
Energy Recovery (Optional)	Filter (Qty) - Size	(9) - 20" x 20" x 4"			
	Filter MERV Ratings	13 or 16			
	Wheel Type	Total Energy Recovery, 4Å Zeolite over Aluminum			
	Wheel Effectiveness	Minimum 60% to Meet ASHRAE 189.1			
	Wheel Sizes (Diameter)	48" or 58"			
	Blower Type	High Efficiency, Backward Inclined, Airfoil Plenum Fan			
	Blower Qty	1			
Blower Sizes (Diameter)	20" or 28"				
Drive	Belt Drive with Auto Tensioner				
Blower Motor Range (HP)	1 - 10HP, NEMA Premium Efficiency ODP and TE				

<sup>1</sup> 575V availability planned for Q1 - 2012.

<sup>2</sup> 90%+ availability planned for Q1 - 2012, patent pending.

<sup>3</sup> 15% possible by disabling 1 furnace. Restrictions apply, please refer to the I&S Manual.



# RESEARCH & DEVELOPMENT

As a global leader in thermal management, Modine operates two state-of-the-art testing facilities at its World Headquarters in Racine, WI, and at its European Headquarters in Bonlanden, Germany.

Modine's dedicated staff of test engineers and laboratory technicians are capable of simulating almost any location on the planet using cutting-edge testing technology and methods.

Its expertise in research and development, coupled with Modine's extensive history, gives commercial HVAC users the confidence they need to keep their systems running year round.



The North American Technical Center and World Headquarters, Racine, WI, is the home of two wind tunnels, including the original 1941 tunnel shown below.



## CLIMATIC AND WIND TUNNEL TESTING

Modine has four chambers in the United States, offering a large spectrum of environmental conditions. Each has the ability to replicate almost any location on earth, giving end users the confidence their products have been tested to meet their specific needs.

The climatic chambers provide a temperature test range of -40° to 140° F (-40° to 60° C) featuring full-spectrum solar simulation. This means Modine can put equipment through the rigors of the desert, a humid summer, or a frigid winter.

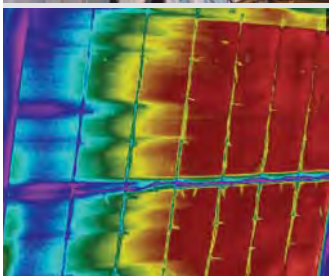
The two wind tunnels also allow simulated testing through subtle storms or hurricane-force winds, with speeds reaching up to 150 mph (241 km/h).

In addition to these world-class wind tunnels, Modine is equipped with a wide array of testing capabilities. This ensures that no matter the solution you request of Modine, you have the confidence in knowing it has been tried, tested and proven in real-world conditions.

Capabilities include:

- Semi-anechoic Sound Chamber
- Cold & Hot Climate Simulation
- Defrost and Fog Testing
- Full-spectrum Solar Simulation
- Green Energy Testing
- Hurricane Wind Testing
- Thermal Performance Testing
- Vibration Testing
- Life-Cycle Testing

Prior to production, Modine's engineering team put the Atherion through rigorous climate testing. This includes thermal imaging tests on Modine's own PF™ coil to qualify refrigeration cooling capability.



Founder A.B. Modine in his workshop.







## HISTORY

A.B. Modine founded Modine Manufacturing Company in 1916 as a one-room office adjacent to a small workshop in Racine, WI. Today, Modine is an integral part of the world marketplace with sales approaching \$1.5 billion. It specializes in products used in industrial heating, ventilation and air conditioning equipment, light, medium and heavy-duty vehicles, off-highway and industrial equipment and refrigeration systems.

From the beginning, Modine has applied innovative thermal technology to meet its customers' needs, with breakthroughs yielding state-of-the-art customized heating and cooling solutions.

### 1916 - 1929

Modine is founded by A.B. Modine in 1916



A.B. Modine invents the unit heater by combining an automotive radiator, a fan and steam pipes



The Spirex radiator is patented and Modine's influence in the transportation industry grows

Ford makes the Turbotube radiator standard on all Model Ts. Modine becomes a publicly held company

### 1930 - 1949

Modine moves to current site in Racine, WI

Vehicular wind tunnel built in 1941



Modine begins manufacturing aftercoolers for the P-51 Mustang fighter plane



### 1950 - 1969

Company introduces "Airditioner" a/c unit for residential and non-residential applications

Began producing all-aluminum, brazed a/c coils for cars and trucks

Heating division introduces a line of electric unit heaters

Modine begins manufacturing rooftop a/c and unit ventilators

Buena Vista, VA, home of the Atherion, manufacturing plant opens



### 1970 - 1989

Weatherproof duct furnaces are introduced

Modine introduces the PF™ (parallel flow) condenser



West Kingston, RI, plant acquired and production begins on unitary products



### 1990 - present

Modine acquires Langerer & Reich and forms Modine Europe

New multi-million dollar Tech Center opens in Racine, WI

Modine acquires Airedale, an international leader in a/c products



The Effinity<sup>93</sup>™ launches, the most efficient gas-fired unit heater in North America



Modine introduces the Atherion™





 **ATHERION™**

To learn more visit [www.ModineHVAC.com/Atherion](http://www.ModineHVAC.com/Atherion)  
or call 1.800.828.HEAT

**Modine Manufacturing Company**  
1500 DeKoven Avenue  
Racine, Wisconsin 53403-2552  
1.800.828.HEAT  
[www.ModineHVAC.com](http://www.ModineHVAC.com)

