



## Products and Solutions from The Whalen Company ... Meeting LEED® Requirements for:

- ◆ Energy Efficiency
- ◆ Water Conservation
- ◆ Indoor Environmental Quality
- ◆ Energy and Atmosphere

### LEED®, The Whalen Company and You

The U.S. Green Building Council's *Leadership in Energy & Environmental Design* (LEED®) Green Building Rating System awards varying levels of certification for buildings that meet rating standards for sustainability in key categories including materials selection, energy efficiency and indoor environmental quality. LEED® standards exist for new construction as well as existing buildings and remodeling projects.

This document highlights the areas where The Whalen Company can provide equipment solutions, enabling your project to meet the requirements for LEED® points. Included are equipment options and individual system components aimed at reducing energy and energy consumption.

This guide is intended to be a quick reference resource. Please consult the U.S. Green Building Council's *LEED® Reference Guide* for the specific requirements that must be met for LEED® certification.

We welcome questions concerning your LEED® projects and the equipment solutions we can offer. Please call your local Whalen representative or contact us directly at [www.whalencompany.com](http://www.whalencompany.com) or 410-822-9200.

# LEED 2009 for New Construction and Major Renovations

## Sustainable Sites Credit 2 (SSc2): Development Density & Community Connectivity

**Intent:** To channel development to urban areas with existing infrastructure, protect greenfields, and preserve habitat and natural resources

**How We Can Help:** All Whalen products might assist in both new construction and renovations by providing one of the smallest footprints, smallest riser grouping and various options that will help in minimizing the total unit space requirement.

## Sustainable Sites Credit 5.2 (SSc5.2): Site Development – Maximize Open Space

**Intent:** To promote biodiversity by providing a high ratio of open space to development footprint.

**How We Can Help:** One of the potential technologies & strategies include stacking the building. All Whalen products might assist in both new construction and renovations by providing one of the smallest footprints, smallest riser grouping and various options that will help in minimizing the total unit space requirement.

## Energy & Atmosphere Prerequisite 1 (EAp1): Fundamental Commissioning of the Building Energy Systems (Required)

**Intent:** To verify that the project's energy-related systems are installed, and calibrated to perform according to the owner's project requirements, basis of design, and construction documents.

Benefits of commissioning include reduced energy use, lower operating costs, fewer contractor callbacks, better building documentation, improved occupant productivity and verification that the systems perform in accordance with the owner's project requirements.

**How We Can Help:** All Whalen products are available with factory-mounted controls which reduce the time for commissioning in the field.

All Whalen products include the riser, ensuring that the basis of design is met and that the resulting energy-efficiency goals and system expectations are achieved.

## Energy & Atmosphere Prerequisite 2 (EAp2): Minimum Energy Performance (Required)

**Intent:** To establish the minimum level of energy efficiency for the proposed building and systems to reduce environmental and economic impacts associated with excessive energy use.

**How We Can Help:** The Whalen Company offers energy-efficient products to meet the mandatory and prescriptive or performance requirements of ASHRAE Standard 90.1-2007.

## Energy & Atmosphere Prerequisite 3 (EAp3): Fundamental Refrigerant Management (Required)

**Intent:** To reduce stratospheric ozone depletion.

**How We Can Help:** The Whalen Company Heat Pump products use R-410a. On existing Whalen equipment, The Whalen Company will assist in changing the equipment to R-410a.

## Energy & Atmosphere Credit 1 (EAc1): Optimize Energy Performance

**Intent:** To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

**How We Can Help:** The Whalen Company offers a wide variety of energy-efficient products with options that further enhance the energy-efficiency of a given unit, such as ECM motors, controls and others.

In addition to unit specific energy-efficiency options, The Whalen Company also offers options that help in enhancing systems savings. Some of these include the following:

- Maximize riser size to reduce the head pressure which will reduce pump HP.
- Maximize unit sizing for each zone.
- Specifically on the Riser Fan Coil product, the elimination of any valve on each unit will greatly reduce the unit Water Pressure Drop which will reduce the required pump HP.
- Specifically on the Riser Fan Coil product, the use of a "Free Heat" chiller with heating water temperatures from 105-140° F allow for meeting most heating requirements.
- Specifically on the Riser Fan Coil 50-50 product, the unique design allows for the entire system to be evaluated to maximize energy efficiency. The unit design allows for substantial savings on the pumping, chiller and boiler systems.

## Energy & Atmosphere Credit 3 (EAc3): Enhanced Commissioning

**Intent:** To begin the commissioning process early in the design process and execute additional activities after systems performance verification is completed.

**How We Can Help:** All Whalen products are available with factory mounted controls, which reduces the time for commissioning in the field. The Whalen Company will provide the required documentation for commissioning.

### Energy & Atmosphere Credit 4 (EA<sub>c</sub>4): Enhanced Refrigerant Management

**Intent:** To reduce ozone depletion and support early compliance with the Montreal Protocol while minimizing direct contribution to climate change.

**How We Can Help:** The Whalen Company will provide calculations showing that Whalen Series VI Heat Pumps meet these requirements.

### Energy & Atmosphere Credit 5 (EA<sub>c</sub>5): Measurement & Verification

**Intent:** To provide for the ongoing accountability of building energy consumption over time.

**How We Can Help:** All Whalen products are available with factory mounted controls and sensors which can be accessed by the Building Management System.

### Indoor Environmental Quality (IEQ<sub>c</sub>1): Outdoor Air Delivery Monitoring

**Intent:** To provide capacity for ventilation system monitoring to help promote occupant comfort and well-being.

**How We Can Help:** The Whalen Company can offer integrating controls with a CO<sub>2</sub> sensor, or add an outdoor air measurement device to the unit.

### Increased Ventilation (IEQ<sub>c</sub>2)

**Intent:** To provide additional outdoor air ventilation to improve indoor air quality (IAQ) and promote occupant comfort, well-being and productivity.

**How We Can Help:** Many of The Whalen Company products can accommodate the requirement of the increased ventilation rate.

### Construction Indoor Air Quality Management Plan (IEQ<sub>c</sub>3.1)

**Intent:** To reduce indoor air quality (IAQ) problems resulting from construction or renovation and promote the comfort and well-being of construction workers and building occupants.

**How We Can Help:** Many of The Whalen Company products can accommodate the requirement of the Minimum Efficiency Reporting Value (MERV) 8 filter.

### Low-Emitting Materials – Adhesives and Sealants (IEQ<sub>c</sub>4.1)

**Intent:** To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

**How We Can Help:** The Whalen Company applies all electrical components, sealants, adhesives at the factory, which allow for these products to be excluded.

### Low-Emitting Materials – Paints and Coatings (IEQ<sub>c</sub>4.2)

**Intent:** To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

**How We Can Help:** The Whalen Company applies all paints and coatings at the factory, which allow for these products to be excluded.

### Indoor Chemical and Pollutant Source Control (IEQ<sub>c</sub>5)

**Intent:** To minimize building occupant exposure to potentially hazardous particulates and chemical pollutants.

**How We Can Help:** Many of The Whalen Company products can accommodate the requirement of the Minimum Efficiency Reporting Value (MERV) 13 filter.

### Controllability of Systems – Thermal Comfort (IEQ<sub>c</sub>6.2)

**Intent:** To provide a high level of thermal comfort system control by individual occupants or groups in multi-occupant spaces (e.g., classrooms or conference areas) and promote their productivity, comfort and well-being.

**How We Can Help:** All of the Whalen Company products provide the individual or specific group superior thermal comfort control.

### Thermal Comfort – Design (IEQ<sub>c</sub>7.1)

**Intent:** To provide a comfortable thermal environment that promotes occupant productivity and well-being.

**How We Can Help:** All of The Whalen Company products provide the individual or specific group superior thermal comfort control. A critical factor in Thermal Comfort is humidity control. The Whalen Company products offer various products that will help meet these requirements.

### Innovation & Design Process (ID<sub>c</sub>2): LEED Accredited Professional

**Intent:** To support and encourage the design integration required by LEED to streamline the application and certification process.

**How We Can Help:** The Whalen Company has LEED AP's ready to assist you on your LEED projects.

## Notes:

If units are to be used as part of an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phase of construction in accordance with IEQ Credit 3.1 (LEED for New Construction Version 2.2), the following are required:

### 1. Submittal items specific to LEED for New Construction Version 2.2.

*The following project data and calculation information are required to document Prerequisite and Credit compliance using the v2.2 Submittal Templates:*

- **Energy and Atmosphere (EA) Prerequisite 2** – Confirm that the project meets the requirements of ASHRAE Std. 90.1-2004.
- **EA Prerequisite 3** – Confirm that the project does not use CFC refrigerants.
- **EA Credit 1** – Provide documentation and/or calculation pertaining to equipment in this specification section for both submittals and final documentation.
- **EA Credit 3** – Provide documentation and/or calculation pertaining to equipment in this specification section for the commissioning authority.
- **EA Credit 4** – Provide calculation showing meeting the required maximum threshold for the combined contributions to the ozone depletion and global warming potential.
- **Indoor Environmental Quality (IEQ) Credit 3.1** – Provide documentation listing all filtration media (manufacturer, model #, MERV Rating, location of installed filter) for both submittals and final documentation.
- **IEQc5** – Confirm that installed filters have a MERV Rating of 13 or better. *(NOTE: USE OF THE MERV 13 FILTER WILL REQUIRE SELECTING A HIGH STATIC OR ECM MOTOR OPTION.)*

[LEED NOTE: IEQ Credit 3.1 - Use of a MERV 8 filter is required when meeting this LEED credit.] *(NOTE: USE OF THE MERV 8 FILTER MAY REQUIRE SELECTING A HIGH-STATIC MOTOR OPTION.)*

[LEED NOTE: IEQ Credit 5 - Use of a MERV 13 filter is required when meeting this LEED credit.] *(NOTE: USE OF THE MERV 13 FILTER WILL REQUIRE SELECTING A HIGH-STATIC OR ECM MOTOR OPTION.)*



*The Whalen Company corporate headquarters.*

### Take the next step.

To learn more about how products from The Whalen Company will help you meet LEED® building requirements, please contact us at **410-822-9200** or **info@whalencompany.com**.



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