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COMPLETE  
**FANCOIL** RANGE  
**ECO** TECHNICAL CATALOGUE

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HVAC Solutions

YOUR SATISFACTION, OUR OBJECTIVE

## HVAC SOLUTIONS



### Your Satisfaction, Our Objective

Sonkor Global HVAC Solutions specializes in developing and producing professional HVAC solutions to worldwide markets.

With over 25 years in the international HVAC business, working together with manufacturers and distributors in their markets, Sonkor has the experience and the knowledge to support our partners around the world in finding the right solution that satisfies their specific needs.

Our headquarters is based in Hong Kong, and we offer worldwide support with offices in China, Europe and North America, allowing personalized, efficient, and same time zone attention.

We are conscious that our customers are the most valuable part of our business. Therefore, we focus on giving the service and the product quality that exceeds your expectations, with integrity, professionalism, and a teamwork approach.

We also provide the specialized knowledge and relationships to overcome the challenges that many times foreign companies face operating in an unfamiliar environments, always focused on getting you the results you want, delivered on time and to your technical specification.

Our professional, worldwide, multilingual, and customer oriented team are trained to understand your requirements and provide the best solution for your specific need.



Sonkor Global experience building products for and working together with some of the most well-known manufacturers and distributors in the world has developed our own brand Polar Air into a strong and powerful name, recognized worldwide, which has become a standard for high quality of the HVAC product solutions named after it. Polar Air is represented in the world by carefully selected business partners, for whom customers are the most valuable part of their business, and who are focused on giving them the service and quality levels that exceeds customer expectations.



### Fan Coil solutions

The Sonkor Global Hydronic Fan Coil Unit range (FCU), is the result of over 20 years' experience designing and manufacturing fan coils for, and together with, the main hot and cold water machine manufacturers from the most demanding markets.

Our FCU range counts with CE and ETL approvals and has been certified by Europe's independent certification company, Eurovent, confirming the performance of our products, developed to meet the strictest international standards.

#### All our FCU ranges offer:

- **Universal integrated control** system with two different configurations:  
**Total Control Configuration** for complete system control including master-slave and Modbus protocol for BMS communication.  
**Flexi Control Configuration** for unit control from an external thermostat with additional control of drain pump, louvers and zonal control of product operations.
- **Energy efficient EC motors** or AC motors options.
- **Designs to reduce costs of stock**, distribution, maintenance and installation.
- **Fancoils suitable for all markets** including 220V/1ph/50Hz, 230V/1ph/60Hz, and 115V/1ph/60Hz.
- **Innovative accessories** to give more product flexibility:  
**Auxiliary heating coils** and auxiliary electric heaters for on-site installation.  
**4x2 switching valve kit** to convert 2 pipe units into a 4 pipe system.

**We thank you for your time and your interest.**

**Please explore the following pages to learn more about our Fancoil product solutions.**



**ECO HIGH WALL  
SERIES**  
**HIGH WALL EC MOTOR  
FANCOILS**

**MODELS**

**SWC AECM**

High Wall Fan Coil with EC Motor 220V / 60Hz, specified under AHRI standards.

**SWC Y-AECM**

High Wall Fan Coil with EC Motor 115V/60Hz, cETLus approved, specified under AHRI standards.

## ECO HIGH WALL SERIES HIGH WALL EC MOTOR FANCOILS

MODEL SWC-AECM  
MODEL SWC-Y-AECM



## ECO HIGH WALL SERIES HIGHWALL EC MOTOR FANCOILS

SWC AECM  
SWC Y-AECM

### Product Presentation

High Wall Fan Coils were invented by Sonkor as the solution in applications where ducted fan coil units will not work, such as spaces without lowered ceilings or where floor space is not preferred for installation. The motorized adjustable louvers on the front of the unit allow for airflow control in heating and cooling modes. With a wide range of product sizes, simplicity of installation and ease of maintenance, High Wall Fan Coils are commonly used in residential and commercial installations for cooling and heating applications.

Sonkor Global ECO Highwall Fan Coil Series is the result of 20 years of product development experience, understanding world market requirements, and applying the technical innovation required to satisfy the most demanding specifications.

### Product Range

The ECO High Wall Series offers an EC motor range of 115V/60Hz (SWC-Y-AECM) with cETLus approval and an EC motor range of 220V/60Hz (SWC-AECM), both ready for 24V thermostats and 24V valves, with the following capacities:

- 5 sizes of 2-pipe from 4500 BTU (1.31kW) to 15000 BTU (4.38kW) cooling capacity.
- 3 sizes of 2-pipe from 15700 BTU (4.60kW) to 22500 BTU (6.60kW) cooling capacity.
- 4-pipe range available with 4x2 Conversion Valve Kits from Cooling Capacity: 4500 BTU (1.31kW) to 22500 BTU (6.60kW) Heating: 5400 BTU (6.1kW) to 16300 BTU (6.9kW). For this option please contact your nearest sales office to get more information.



SONKOR GLOBAL HVAC SOLUTIONS

### Product Features

- **Energy Efficiency.** The ECO High Wall Series Fan Coils incorporate a DC motor with variable speed modulation using an integrated EC motor driver.

Energy saving or unit power input at set H/M/L speeds is reduced by 30 - 50% when compared to traditional on/off AC motors. Moreover, in Energy Saving Auto - Mode (ESM), as airflow is continuously varied (step-less progression) between 15% and 100% of the maximum high speed airflow, energy saving will be 50 - 70% while precisely meeting the required cooling and heating loads of the space.

This innovation eliminates the need for the motor to turn off and on periodically to maintain the desired temperature of the environment, leading to total energy savings of up to 50% on an installation/project basis. Modulation of airflow to meet heating and cooling requirements of the space will also result in reducing temperature fluctuations within the space, as well as reducing fan noise.

The motor is driven by a 0 - 5 VDC signal originating from an inverter board integrated into the unit onboard controller, which utilizes PID logic in order to modulate motor RPMs in Energy Saving Auto - Mode (ESM).

- **Flexibility.** The ECO High Wall Series Fan Coils offer an integrated 2-way or 3-way valve (on/off with thermoelectric actuators) for all sizes, along with pre-configuration for 4x2 switching device (optional), and 4-pipe control logic available by DIP switch setting. It also features Universal EC motors with adjustable RPMs by DIP Switch setting as well as Universal Control Boards with the same dimensions for the full range.

- **Low Sound.** The ECO High Wall Series Fan Coil series has been configured to minimize noise output with the smallest unit producing 38 dBA at high speed and the largest unit producing 59 dBA at high speed.

- **Design.** The ECO High Wall Series Fan Coil has an Elegant and Modern design. It has a flat front panel, LED display, and all capacities come housed in one of two cabinet sizes, which allows consistency and uniformity on projects where multiple units are required.

- 5 sizes with the only one dimension: 34½ x 9 x 12 inches (876 x 228 x 300mm).

- 3 sizes with only one dimension: 42 x 9½ x 12¼ inches (1063 x 240 x 310mm).

### Standard Configuration

The ECO High Wall Series Fan Coil comes with standard stainless steel insulated flexible hoses for connection to supply and return water pipes, nylon NET Filter, swing motor, LED display and Controls compatible for 24V thermostats and 24V valve connections.

### Control Options

The ECO High Wall Series Fan Coils offer 2 different control possibilities to satisfy specific applications.

- **Total Control Board (S type)** – Field Programmable using easy to set dipswitches and controlled via Infra-red handset and/or wired wall pad. It includes a 24V signal for modulating valve controls and it offers the following control options: continuous with modulation or On/Off fan, 2 or 4 Pipe configuration, with or without valves, with or without electrical heater, preheat configuration and complete diagnostics. It also allows control of up to 32 Secondary units via a single Main Unit with IR Handset or Wall Pad controller, and up to 2048 units via BMS (Building Management System) with Modbus platform.

- **Flexi Control Board (W type)** – Flexible function control for External Thermostat applications including a 24V signal for modulating valve controls, with control of Drain Pump, Louvers, Zone Control product operations, and limited LED diagnostics.



**ECO SUPERIOR  
SERIES**  
EC MOTOR CASSETTE  
FANCOIL

**MODELS**

**PCGH AECM**

Cassette Fan Coil with EC Motor 220V/60Hz, specified under AHRI standards.

**PCGH Y-AECM**

Cassette Fan Coils with EC Motor 115V/60Hz, cETLus approved, specified under AHRI standards.



## ECO SUPERIOR SERIES EC MOTOR CASSETTE FANCOIL

MODEL PCGH AECM  
MODEL PCGH Y-AECM



## ECO SUPERIOR SERIES EC MOTOR CASSETTE FANCOIL

PCGH AECM  
PCGH Y-AECM

### Product Presentation

The ECO Superior Series Cassette Fan Coils have been designed to minimize after sales labor cost, to maximize product flexibility on-site and in-stock, and to optimize the distribution process. This series offers a wide range of capacities with the following front panel sizes:

- 680 x 680 x 28 (mm) / 27 x 27 x 1 (in).
- 680 x 1240 x 28 (mm) / 27 x 49 x 1 (in).
- 830 x 830 x 28 (mm) / 33 x 33 x 1 (in).
- 980 x 980 x 28 (mm) / 39 x 39 x 1 (in).

### Product Range

The ECO Superior Series Cassette fan coils are available with either 115V/60Hz (PCGH-Y-AECM-ETL approved) or 220V/60Hz (PCGH-AECM) EC motors. The units can be provided with 24V thermostats and 24V valves in the following capacities:

- **7 sizes of 2-pipe 2 row models from 11000BTU (3kW) to 37000BTU (11 kW) Cooling Capacity.**
- **5 sizes of 4-pipe 2+1 row models from 13000BTU (4kW) to 24000BTU (7kW) Cooling Capacity.**



### Product Features

• **Energy Efficiency.** The ECO Superior Series Cassette Fan Coils incorporate a DC motor with variable speed modulation using an integrated EC motor driver.

Energy saving or unit power input at set H/M/L speeds is reduced by 30 - 50% when compared to traditional on/off AC motors. Moreover, in Energy Saving Auto - Mode (ESM), as airflow is continuously varied (step-less progression) between 15% and 100% of the maximum high speed airflow, energy saving will be 50 - 70% while precisely meeting the required cooling and heating loads of the space.

This innovation eliminates the need for the motor to turn off and on periodically to maintain the desired temperature of the environment, leading to total energy savings of up to 50% on an installation/project basis. Modulation of airflow to meet heating and cooling requirements of the space will also result in reducing temperature fluctuations within the space, as well as reducing fan noise.

The motor is driven by a 0 - 5 VDC signal originating

from an inverter board integrated into the unit onboard controller, which utilizes PID logic in order to modulate motor RPMs in Energy Saving Auto - Mode (ESM).

• **Flexibility for Distribution and Maintenance.** The ECO Superior Series Cassette Fan Coils have been designed to maximize product flexibility on site and in stock offering the following features:

- Plug and Play Control Boxes, accessible without removing ceiling tiles or ceiling access door.
- Easy to remove the front panel, filter and integrated drain pump.
- 1-step access to power terminals and auxiliary contacts for quick and easy wiring.
- Internal air vents and water purge valve accessible without removal of drain-pan.
- Easy to remove drain pan. After removal of drain pan all internal components can be easily accessed for servicing and maintenance, including drain pump and float switch, motor and fan, and electrical heater.

### Standard Configuration

The ECO Superior Series Cassette Fan Coils offer as standard Nylon net filter(s), stepping motors for louvers, LED display with infra-red signal receiver, return air temperature sensor, coil temperature sensor, integrated condensate pump with float switch, and control systems compatible with 24V thermostats and 24V valve connections.

### Control Options

The ECO Superior Series Cassette Range offers 3 different Plug and Play Control Box possibilities to satisfy specific applications.

• **Total Control Board Plug and Play Box (S type)** – Field Programmable using easy to set dipswitches and controlled via Infra-red handset and/or wired wall pad. It includes a 24V signal for modulating valve controls and it offers the following control options: continuous with modulation or On/Off fan, 2 or 4 Pipe configuration, with or without valves, with or without electrical heater, preheat configuration and complete diagnostics. It also allows control of up to 32 Secondary units via a single Main Unit with IR Handset or Wall Pad controller, and up to 2048 units via BMS (Building Management System) with Modbus platform.

• **Flexi Control PCB (W type)** – Flexible function control for External Thermostat applications, including a 24V signal for modulating valve controls, with control of Drain Pump, Louvers, Zone Control product operations, and limited LED diagnostics.

• **Without Control Box Option (X type)** – The PCGH-AECM Cassette can be stocked without a control board box installed. The control board boxes for S or W type can be kept in stock separately, and can be easily plugged into the unit for use on demand.



## ECO LSTAT EUV SERIES LOW STATIC DUCTED EC FANCOILS

### MODELS

#### PDWL AECM

European Style (Square Shape) Low Static Ducted Fan Coils with EC Motor 220V/60Hz, specified under AHRI standards.

#### PDWL Y-AECM

European Style (Square Shape) Low Static Ducted Fan Coils with EC Motor 115V/60Hz, cETLus approved, specified under AHRI standards.

## ECO LSTAT EUV SERIES LOW STATIC DUCTED EC FANCOILS

MODEL PDWL-AECM  
MODEL PDWL-Y-AECM



## ECO LSTAT EUV SERIES LOW STATIC DUCTED EC FANCOILS

PDWL AECM  
PDWL Y-AECM

### Product Presentation

Sonkor Global ECO LSTAT EUV Series Low Static Ducted Fan Coils have been designed to meet the requirements of the most demanding markets. The ECO LSTAT EUV Series offers a complete product range with 3 row, 3+1 row and 4 row coils. Auxiliary electrical heaters are available for onsite installation and suitable to stock in house. Fan motor assemblies can be removed for servicing without removing the unit.

### Product Range

The ECO Lstat EUV Series Ducted Fan Coils are available with either 115V/60Hz (PDWL-Y-AECM-cETLus approved) or 220V/60Hz (PDWL-AECM) EC motors. The units can be provided with 24V thermostats and 24V valves in the following capacities:

- 9 sizes 2 pipe 3Row models from 6940BTU to 40245BTU cooling capacity, and 10594BTU to 62053BTU heating capacity.
- 9 sizes 2 pipe 4Row models from 7801BTU to 48641BTU cooling capacity, and 11809BTU to 71707BTU heating capacity.
- 9 sizes 4 pipe 3row + 1 row models from 6940BTU to 40245BTU cooling capacity, and 7620BTU to 43726BTU heating capacity.



SONKOR GLOBAL HVAC SOLUTIONS

### Product Features

• **Energy Efficiency.** The ECO LSTAT EUV Series Low Static Ducted Fan Coils incorporate a DC motor with step-less speed modulation using an integrated EC motor driver.

Energy saving or unit power input at set H/M/L speeds is reduced by 30 - 50% when compared to traditional on/off AC motors. Moreover, in Energy Saving Auto-Mode (ESM), as airflow is continuously varied (step-less progression) between 15% and 100% of the maximum high speed airflow, energy saving will be 50 - 70% while precisely meeting the required cooling and heating loads of the space.

This innovation eliminates the need for the motor to turn off and on periodically to maintain the desired temperature of the environment, leading to total energy savings of up to 50% on an installation/project basis. Modulation of airflow to meet heating and cooling requirements of the space will also result in reducing temperature fluctuations within the space, as well as reducing fan noise.

The motor is driven by a 0 - 5 VDC signal originating from an inverter board integrated into the unit onboard controller, which utilizes PID logic in order to modulate motor RPMs in Energy Saving Auto - Mode (ESM).

- **Flexibility.** The ECO LSTAT PDWL Ducted Fan Coil has been designed to maximize product flexibility on site and in stock offering:
- Interchangeable Left / Right hand connections.
- Easy to remove fan motor assembly, coil and filter for maintenance, without de-installation of the unit.
- Easy to install external valves with standardized pipe connections.
- Auxiliary Electric Heater and Auxiliary 1 row Heating Coil suitable for On-site or In-stock installation.
- Various Plenum Connector Accessories for multiple applications (42 x 9½" x 12¼" in / 1063 x 240 x 310mm).

### Standard Configuration

The ECO LSTAT EUV Low Static Ducted Fan Coils offers as standard Nylon net filter(s) and interchangeable left/ right-side coil connections.

### Control Options

The ECO LSTAT EUV Low Static Ducted Fan Coils offers the following control possibilities to satisfy specific applications.

- **Total Control Board (S type)** – Field Programmable using easy to set dipswitches and controlled via Infra-red handset and/or wired wall pad. It includes a 24V signal for modulating valve controls and It offers the following control options: continuous with modulation or On/Off fan, 2 or 4 Pipe configuration, with or without valves, with or without electrical heater, preheat configuration and complete diagnostics. It also allows control of up to 32 Secondary units via a single Main Unit with IIR Handset or Wall Pad controller, and up to 2048 units via BMS (Building Management System) with Modbus platform.
- **Flexi Control Board (W type)** – Flexible function control for External Thermostat applications including a 24V signal for modulating valve controls with zone control functionality.



**ECOLSTAT EUV  
SERIES**  
LOW STATIC DUCTED  
EC FANCOILS

MODEL F0WL-AE0M  
MODEL F0WL-Y-AE0M

**Product Accessories**

CONTROL ACCESSORIES



**INFRA-RED HANDSET CONTROLLER + WALL HOLDER**  
(AVAILABLE ONLY FOR TOTAL CONTROL BOARD)  
With Global Control functionality for Main and Secondary Unit groups.



**ABS EXTERNAL LED RECEIVER**  
IR receiver in ABS housing with 70 inches length prewiring, which can be connected with S Type controls only. LED lights show working mode or error code.



**UNLIMITED WIRED WALL PAD CONTROLLER**  
(AVAILABLE ONLY FOR TOTAL CONTROL BOARD)  
Features: 7 day ON/OFF timer program. Addressable Main and Secondary units allowing control of up to 32 Secondary units via a single Main Unit with set or check of each unit parameters individually. Error display with addressable error diagnostic (Main unit Wall Pad displays Secondary unit address and error type). One Touch Global Control (Global Control Main Unit Wall Pad controls all units in the group). Multi-color backlight display. Onboard Room Air Temperature Sensor.



**DATA LOGGER CONTROL FOR MODBUS BMS CONNECTION**  
(AVAILABLE ONLY FOR TOTAL CONTROL BOARD)  
1 Data Logger will control up to 32 units. Up to 64 Data Loggers can be connected to one single system to control a maximum of 2048 fan coils by BMS.



**MOD32 OPEN SOFTWARE**  
Open Software for OPEN MODBUS (32-bit) with Sonkor Installation Guide.



**DIP SWITCH CONFIGURATION SERVICE**  
Preset Dip switch configuration for addressing Main Unit to Secondary Units. Dip Switch configuration labelled with carton tag.

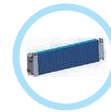


**STCD SERIES THERMOSTATS**  
(FOR FLEXI CONTROL BOARD)  
Please visit [www.sonkor.com](http://www.sonkor.com) for further information on our STCD thermostat range.

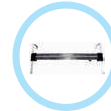


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MORE ACCESSORIES



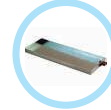
**AUXILIARY HEATING COILS**  
Easy to install heating coil for 4 pipe applications.



**ELECTRICAL HEATERS**  
The electric heater module is supplied for winter heating as an alternative to the auxiliary hot water coil. We offer a complete range of PTC (Positive Thermal Coefficient) electric heaters kits, easy to connect to control box, with mounting fixture. The electric heater configuration is selectable by DIP switch on the internal control board.

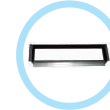


**VALVES + VALVE KITS**  
2-way On/Off or 3-way bypass valves, 3/4" or 1/2" sizes, with thermoelectric or 24Vac modulating actuators.  
Stainless Steel Hose and Copper Piping Connection Kits for 2-way and 3-way valve options. Distance between inlet and outlet pipe connections standardized at 1.57inches (40mm) for hot water circuit, and 1.97inches (50mm) for cold water circuit.

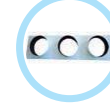


**OPTIONAL STAINLESS STEEL DRAIN PAN**

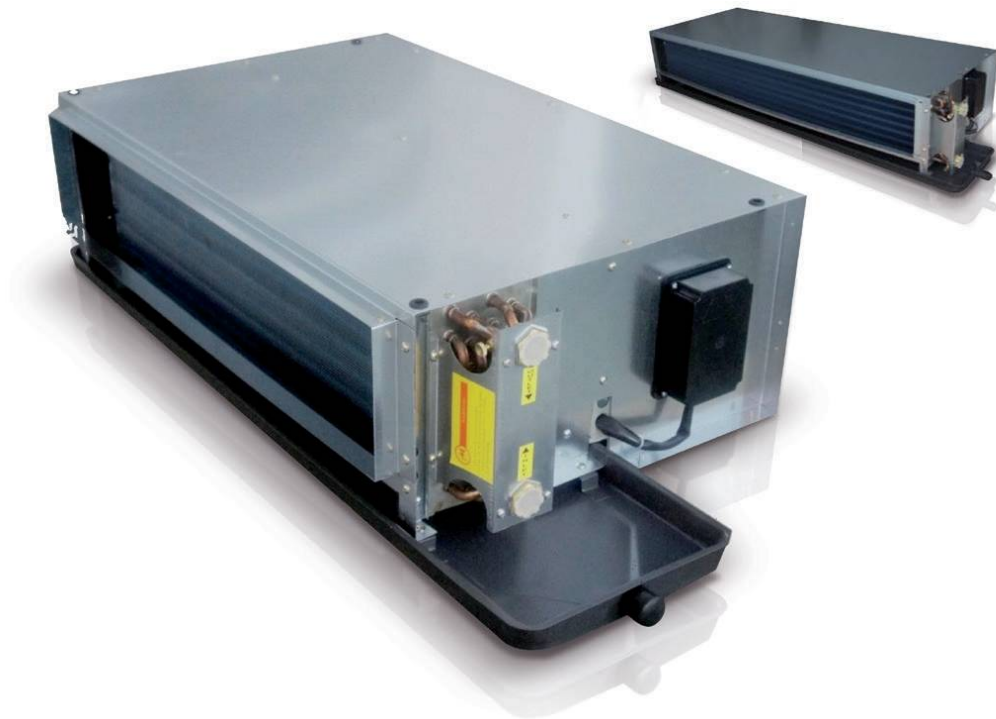
PLENUMS



**RETURN AIR AND DISCHARGE**  
See Technical Manual for further information.



**INTAKE AND DISCHARGE AIR WITH CIRCULAR FITTINGS**  
See Technical Manual for further information.



**ECO LSTAT AMV**  
**SERIES**  
EC MOTOR DUCTED  
FAN COILS

**MODELS**

PDWA AECM

Low Static Ducted Fan Coil with EC Motor 220V/60Hz, specified under AHRI standards.

PDWA Y-AECM

Low Static Ducted Fan Coil with EC Motor 115V/60Hz, cETLus approved, specified under AHRI standards.

## ECO LSTAT AMV SERIES EC MOTOR DUCTED FAN COILS

MODEL PDWA-AECM  
MODEL PDWA-Y-AECM



## ECO LSTAT AMV SERIES EC MOTOR DUCTED FAN COILS

PDWA-AECM  
PDWA-Y-AECM

### Product Presentation

The ECO LSTAT AMV Series Low Static Ducted Fan Coils have been specifically designed to satisfy high cooling capacity at low external static applications. They represent one of the most cost effective solutions to provide a comfortable environment for both commercial and residential applications.

With a quiet operation, compact dimensions and low heights, these units are ideal for ceiling concealed installations even in buildings with limited ceiling spaces.

### Product Range

The ECO Lstat AMV Series Ducted Fan Coils are available with either 115V/60Hz (PDWA-Y-AECM-cETLus approved) or 220V/60Hz (PDWA-AECM) EC motors. The units can be provided with 24V thermostats and 24V valves in the following capacities:

- 10 models of 2 pipe 3Row from 8500BTU to 51000BTU cooling capacity, and 13000BTU to 77000BTU heating capacity.
- 10 models of 2 pipe 4Row from 10000BTU to 60000BTU cooling capacity, and 15000BTU to 90000BTU heating capacity.
- 10 models of 4 pipe 3+1Row from 8500BTU to 51000BTU cooling capacity and 9000BTU to 48000BTU heating capacity.



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### Product Features

- **Energy Efficiency.** The ECO LSTAT AMV Low Static Pressure Ducted Fan Coils incorporate a DC motor with step-less speed modulation using an integrated EC motor driver.

Energy saving or unit power input at set H/M/L speeds is reduced by 30 - 50% when compared to traditional on/off AC motors. Moreover, in Energy Saving Auto-Mode (ESM), as airflow is continuously varied (step-less progression) between 15% and 100% of the maximum high speed airflow, energy saving will be 50 - 70% while precisely meeting the required cooling and heating loads of the space.

This innovation eliminates the need for the motor to turn off and on periodically to maintain the desired temperature of the environment, leading to total energy savings of up to 50% on an installation/project basis. Modulation of airflow to meet heating and cooling requirements of the space will also result in reducing temperature fluctuations within the space, as well as reducing fan noise.

The motor is driven by a 0 - 5 VDC signal originating from an inverter board integrated into the unit onboard controller, which utilizes PID logic in order to modulate motor RPMs in Energy Saving Auto - Mode (ESM).

- **Design.** The ECO LSTAT AMV Low Static Pressure Ducted Fan Coils feature an advanced structure for high efficiency performance, low noise, convenient

installation and low maintenance. With a low height design this fan coil series is perfect for low height ceiling concealed installations.

- **Flexibility.** The ECO LSTAT AMV Low Static Pressure Ducted Fan Coils are available with left or right hand water connections, which can be easily switched in the field by changing the positions of the fan-motor assembly, and the supply air flange assembly, when required.

- **Performance.** The ECO LSTAT AMV Series Low Static Pressure Ducted Fan Coils count with optimized water circuit designs and have been tested in accredited thermal test rooms to guarantee perfect performance and low chilled water pressure drops. The ECO LSTAT AMV Series Low Static Pressure Ducted Fan Coils can supply more air flow at higher ESP, with an air flow range from 200 to 1600 CFM at medium speed with ESP (External Static Pressure) of 50Pa.

### Standard Configuration

The ECO LSTAT AMV Low Static Pressure Ducted Fan Coils are supplied with return plenum and air filter and statically and dynamically balanced centrifugal fans.

### Control Options

The ECO LSTAT AMV Series offers 2 different control possibilities to satisfy specific applications.

- **Total Control Board (S type)** - Field Programmable using easy to set dipswitches and controlled via Infra-red handset and/or wired wall pad. It includes a 24V signal for modulating valve controls and it offers the following control options: continuous with modulation or On/Off fan, 2 or 4 Pip configuration, with or without valves, with or without electrical heater, preheat configuration, complete diagnostics. It also allows control of up to 32 Secondary units via a single Main Unit with IR Handset or Wall Pad controller, and up to 2048 units via BMS (Building Management System) with Modbus platform.
- **Flexi Control Board (W type)** - Flexible function control for External Thermostat applications, including a 24V signal for modulating valve controls with control of Drain Pump, Louvers, Zone Control, product operations, and limited LED diagnostics.



**ECO HSTAT AMV**  
**SERIES**  
EC MOTOR **DUCTED**  
FAN COILS

**MODELS**

PDWB AECM

High Static Ducted Fan Coil with EC Motor 220V/60Hz, cETLus approved, specified under AHRI standards.

## ECO HSTAT AMV SERIES EC MOTOR DUCTED FAN COILS

MODEL PDWB



## ECO HSTAT AMV SERIES EC MOTOR DUCTED FAN COILS

PDWB AECM

### Product Presentation

The ECO HSTAT AMV Series of Ducted Fan Coils have been specifically designed to satisfy high cooling capacity and high static applications. They represent one of the most cost effective solutions to provide a comfortable environment for commercial applications.

With quiet operation, compact dimensions and low heights, these units are ideal for ceiling concealed installations even in buildings with narrow ceiling spaces.

### Product Range

The ECO HSTAT AMV Series Hi Static Ducted Fan Coils are available with 220V/60Hz cETLus approved EC motors. The units can be provided with 24V thermostats and 24V valves in the following capacities:

- 5 models of 2 pipe 4Row from 35000BTU to 79000BTU cooling capacity, and 54000BTU to 118000BTU heating capacity.
- 5 models of 2 pipe 6Row from 32000BTU to 74000BTU cooling capacity, and 63000BTU to 140000BTU heating capacity.
- 5 models of 4 pipe 4+2Row from 35000BTU to 79000BTU cooling capacity and 51000BTU to 116000BTU heating capacity.



SONKOR GLOBAL HVAC SOLUTIONS

### Product Features

- **Energy Efficiency.** The ECO HSTAT AMV High Static Pressure Ducted Fan Coils incorporate a DC motor with step-less speed modulation using an integrated EC motor driver.

Energy saving or unit power input at set H/M/L speeds is reduced by 30 - 50% when compared to traditional on/off AC motors. Moreover, in Energy Saving Auto-Mode (ESM), as airflow is continuously varied (step-less progression) between 15% and 100% of the maximum high speed airflow, energy saving will be 50 - 70% while precisely meeting the required cooling and heating loads of the space.

This innovation eliminates the need for the motor to turn off and on periodically to maintain the desired temperature of the environment, leading to total energy savings of up to 50% on an installation/project basis. Modulation of airflow to meet heating and cooling requirements of the space will also result in reducing temperature fluctuations within the space, as well as reducing fan noise.

The motor is driven by a 0 - 5 VDC signal originating from an inverter board integrated into the unit onboard controller, which utilizes PID logic in order to modulate motor RPMs in Energy Saving Auto - Mode (ESM).

- **Design.** The ECO HSTAT AMV High Static Pressure Ducted Fan Coils feature an advanced structure for high efficiency air draw through the coil performance, low noise, convenient installation and low maintenance. With a low height design this fan coil series is perfect for low height ceiling concealed installations.

- **Low Noise.** The ECO HSTAT AMV High Static Pressure Ducted Fan Coils are built with enlarged fan wheels to permit lower fan speed selection for the same external static pressure, with the same airflow requirement. The result is significantly reduced noise levels.

- **Flexibility.** The ECO HSTAT AMV High Static Pressure Ducted Fan Coils are available with left or right hand water connections, which can be easily switched in the field by changing the positions of the fan-motor assembly, and the supply air flange assembly, when required.

- **Performance.** The ECO HSTAT AMV High Static Pressure Ducted Fan Coils are built with optimized water circuit designs and have been tested in accredited thermal test rooms to guarantee performance and low water pressure drops.

The ECO HSTAT AMV Series can supply more air flow at higher ESP, with an air flow range from 1000 to 2200 CFM at medium speed at an ESP of 0.3 in. wg.

### Standard Configuration

The ECO HSTAT AMV Series High Static Pressure Ducted Fan Coils are supplied with suction plenum and air filter, centrifugal fans with forward curved blades, statically and dynamically balanced, as standard.

### Control Options

The ECO HSTAT AMV Series High Static Pressure Ducted Fan Coils offer 2 different control possibilities to satisfy specific applications.

- **Total Control Board (S type)** - Field Programmable using easy to set dipswitches and controlled via Infra-red handset and/or wired wall pad. It includes a 24V signal for modulating valve controls and it offers the following control options: continuous with modulation or On/Off fan, 2 or 4 Pipe configuration, with or without valves, with or without electrical heater, preheat configuration and complete diagnostics. It also allows control of up to 32 Secondary units via a single Main Unit with IR Handset or Wall Pad controller, and up to 2048 units via BMS (Building Management System) with Modbus platform.

- **Flexi Control Board (W type)** - Flexible function control for External Thermostat applications including a 24V signal for modulating valve controls, with control of Drain Pump, Louvers, Zone Control product operations, and limited LED diagnostics.





## ECO UNIVERSAL SERIES EC MOTOR UNIVERSAL FAN COILS

### MODELS

#### PFWB AECM

Universal Fan Coils with EC Motor 220V/60Hz, specified under AHRI standards.

#### PFWB Y-AECM

Universal Fan Coils with EC Motor 115V/60Hz, cETLus approved and specified under AHRI standards.

#### PFWBC AECM

Universal Fan Coils with EC Motor 220V/60Hz, specified under AHRI standards, with Decorative Cabinet.

#### PFWBC Y-AECM

Universal Fan Coils with EC Motor 115V/60Hz, cETLus approved and specified under AHRI standards, with Decorative Cabinet.

## ECO UNIVERSAL SERIES EC MOTOR UNIVERSAL FANCOILS

MODEL PFWB-AECM  
MODEL PFWB-Y-AECM  
MODEL PFWBC-AECM  
MODEL PFWBC-Y-AECM



## ECO UNIVERSAL SERIES EC MOTOR UNIVERSAL FAN COILS

PFWB AECM  
PFWB Y-AECM  
PFWBC AECM  
PFWBC Y-AECM

### Product Presentation

Sonkor Global ECO Universal Series has been designed to meet the functional and technical requirements of the most demanding markets. These units are offered in a complete product range with 3 row, 3+1 row and 4 row configurations. Flexible pipe connections allow on site left or right tie-in, Auxiliary Heaters can be installed in the field or shop.

The ECO Universal Series Fan Coils have a discrete slim, modern and elegant design, and are available uncased (ECO Universal NC Series) for in the wall installation or with Decorative Cabinet (ECO Universal EXP Series) for external (exposed) horizontal under ceiling or vertical floor standing installations.

The ECO Universal EXP Series comes in a RAL9010 white color decorative metal casing and has

integrated control options for Thermostat, Wall Pad, or Infrared Remote Control.

### Product Range

The ECO Universal Series are available with 115V/60Hz (PFWB(C)-Y-AECM - cETLus approved) or 220V/60Hz (PFWB(C)-AECM) EC motors. The units can be provided with 24V thermostats and 24V valves in the following capacities:

- **9 sizes of 2-pipe models 3 row from 6000BTU (1.8 Kw) to 33100BTU (9.8 kW) cooling capacity.**
- **4 pipe models available with auxiliary heating coil (3+1 row configuration).**
- **9 sizes of 2-pipe 4 row models from 6800BTU (2kW) to 39900BTU (11.7kW) cooling capacity (non-standard configuration).**



SONKOR GLOBAL HVAC SOLUTIONS

### Product Features

- **Energy Efficiency.** The ECO Universal Series Fan Coils incorporate a DC motor with step-less speed modulation using an integrated EC motor driver. Energy saving or unit power input at set H/M/L speeds is reduced by 30 - 50% when compared to traditional on/off AC motors. Moreover, in Energy Saving Auto - Mode [ESM], as airflow is continuously varied [step-less progression] between 15% and 100% of the maximum high speed airflow, energy saving will be 50 - 70% while precisely meeting the required cooling and heating loads of the space. This innovation eliminates the need for the motor to turn off and on periodically to maintain the desired temperature of the environment, leading to total energy savings of up to 50% on an installation/ project basis. Modulation of airflow to meet heating and cooling requirements of the space will also result in reducing temperature fluctuations within the space, as well as reducing fan noise.

The motor is driven by a 0 - 5 VDC signal originating from an inverter board integrated into the unit onboard controller, which utilizes PID logic in order to modulate motor RPMs in Energy Saving Auto - Mode [ESM].

- **Flexibility.** The ECO Universal Series Fan Coils have been designed to maximize product flexibility on site, and in stock offering:
- Easy to remove front cover for ease of maintenance.
- Interchangeable Left / Right hand connections.
- Horizontal or vertical return air intake positions.
- Auxiliary Electric Heater and Auxiliary 1 row Heating Coil suitable for On-site or In-stock installation.

### Standard Configuration

The ECO Universal Series offers as standard Nylon net filters and Interchangeable left/ right-side coil connections.

### Control Options

The ECO Universal Series offers the following control possibilities to satisfy specific applications.

- **Total Control Board (S type)** - Field Programmable using easy to set dipswitches and controlled via Infra-Red handset and/or Wired Wall pad. It includes a 24V signal for modulating valve controls and It offers the following control options: Continuous with modulation or On/Off fan, 2 or 4 Pipe configuration, with or without valves, with or without electrical heater, preheat configuration and complete diagnostics. It also allows control of up to 32 Secondary units via a single Main Unit with IR Handset or Wall Pad controller, and up to 2048 units via BMS (Building Management System) with Modbus platform.
- **Flexi Control Board (W type)** - Flexible function control for External Thermostat applications including a 24V signal for modulating valve controls, with control of Drain Pump, Louvers, Zone Control product operations, and limited LED diagnostics.



HVAC Solutions

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