

**ECO SLIMLINE
SERIES
DECORATIVE EC
MOTOR FAN COILS**

MODEL PFWSL Y-AECM



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Product Presentation

The ECO Slimline Series Fan Coils with energy efficient EC motors are meant for residential and commercial applications with a slim and elegant 5-1/8 in depth design.

This product range can achieve higher energy savings when combined with low temperature heat generators such as heat pumps, condensing boilers and systems with built-in solar collectors.

With its sophisticated temperature regulator, the PFWSL Y-AECM provides thermal comfort in every season.

Product Range

The ECO Slimline Series Fan Coils, offer an EC motor range of 115V/1Ph/60Hz and can be provided with 24V thermostats and 24V valves in the following capacities:

- **5 sizes of 2 pipe, 2 row models from 3250 BTU/Hr to 11500 BTU/Hr cooling capacity and 5050 BTU/Hr to 17850 BTU/Hr heating capacity.**
- **5 sizes of 4 pipe, 2 row models from 3200 BTU/Hr to 11150 BTU/Hr cooling capacity and 4100 BTU/Hr to 13700 BTU/Hr heating capacity.**

Product Features

• **Energy Efficiency.** The ECO Slimline Series Fan Coil incorporates 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 - 10 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 Slimline Series Fan Coil has been designed to maximize product flexibility on site and in stock offering:

- Easy to remove front cover for ease of maintenance.
- Horizontal and vertical installation available;
- Auxiliary Electric Heater and Auxiliary 1 row Heating Coil suitable for On-site or In-stock installation.

• **Design.** The PFWSL Y-AECM has an elegant and Modern design, with only 5-1/8 in. depth.

• **Low Sound.** The PFWSL Y-AECM features minimised noise levels thanks to its tangential fan.

Standard Configuration

The ECO Slimline Series Fan Coils units are provided with 1/16 in nylon filters.

Control Options

The ECO Slimline 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 offers the following control options: Continuous with modulation; 2 or 4 Pipe configuration; with or without valves; with or without electrical heater; preheat configuration; complete diagnostics.
- **Flexi Control Board (W type)** - 24VAC controller compatible with external wired wall mounted thermostat for 3 speeds fan control or 0-10VDC modulating fan control by external input signal. Control of optional integral drain pump, optional 24V or modulating zone valves, and limited LED diagnostics are included.

EC-S VERSION UNIT



Available with our new Wired Wall Pad. Optional remote handset.

EC-W VERSION UNIT



Designed for control with an external thermostat, which needs to be installed outside of the unit.

EC-THERMOSTAT (OPTIONAL)



EC thermostat (TH-EC) available for installation within the unit. See accessories section for further information.

ECO SLIMLINE SERIES
DECORATIVE EC MOTOR FAN COILS

MODEL PFWSL-Y-AECM

Technical Specifications (AHRI Standards 440)

PFWSL-Y-AECM-V

Hydronic Slimline Universal Decorative Unit 2 pipe with EC Motor.



UNIT CONFIGURATION		PFWSL-[Size]-Y-AECM-V		01	02	03	04	05		
		Configuration		2-pipe						
		Number of Fan Blowers		Single			Twin			
		Power Supply		[V/Ph/Hz]		115 / 1 / 60				
		Operation Control		S Type: Total control version. WType: Flexible control version.						
PERFORMANCE DATA	Air	Total AirFlow	H 3	CFM	108	176	247	308	347	
			M 2	86	135	196	242	265		
			L 1	54	84	134	198	231		
	Cooling	Cooling Capacity	H 3	BTU/Hr	3249	5552	7992	9880	11480	
			M 2		2718	4535	6738	8243	9379	
			L 1		1898	3103	5010	7094	8452	
		Sensible Cooling Capacity	H 3		2227	3738	5328	6618	7635	
			M 2		1839	3015	4439	5455	6159	
			L 1		1257	2018	3244	4672	5532	
	Heating	Heating Capacity	H 3	BTU/Hr	5051	8630	12424	15358	17846	
			M 2		4225	7051	10474	12815	14580	
			L 1		2951	4824	7789	11028	13139	
	Max. Elec. Heater Capacity			kW	0.75	1		1.5		
		Sound	Sound Pressure Level [Outlet]		dB(A)					
			48/42/37							
	Electrical	Fan Motor Power		W						
				14 17 22 22 24						
		Fan Motor Running Current		A						
	Hydraulic	Water Flow Rate		GPM						
				0.64 1.1 1.58 1.95 2.27						
Cooling Pressure Drop		FL.Hd								
		0.36 1.8 4.36 2.45 3.54								
Heating Water Flow Rate @ 3/2/1		GPM								
		Same as "Water Flow Rate"								
Heating Pressure Drop		FL.Hd								
		0.45 2.33 5.34 3.06 4.58								
Water Content		Gal								
		0.116 0.193 0.272 0.349 0.425								
CONSTRUCTION AND PACKING DATA		Water Connections		Type						
				NPT Threaded female						
		Condensate Drainage Connection		in						
				3/4						
		Dimensions*		in						
		29-1/8 7 44-7/8 52-3/4 60-5/8								
Net Weight		Lbs								
		41.9 48.5 55.2 61.8 68.4								

Cooling mode (2 pipe):

Return air temperature: 80F DB/ 67F WB.
Inlet/outlet water temperature: 45F / 55F.

* Product dimensions are within ± 1/16 inches.

Heating mode (2 pipe):

Return air temperature: 70F.
Inlet water temperature: 140F.



Technical Specifications (AHRI Standards 440)

PFWSL-Y-AECM-P

Hydronic Slimline Universal Decorative Unit 4 pipe with EC Motor.



UNIT CONFIGURATION		PFWSL-[Size]-Y-AECM-P		01	02	03	04	05		
		Configuration		4-pipe						
		Number of Fan Blowers		Single			Twin			
		Power Supply		[V/Ph/Hz]		115 / 1 / 60				
		Operation Control		S Type: Total control version. WType: Flexible control version.						
PERFORMANCE DATA	Air	Total AirFlow	H 3	CFM	108	176	247	308	347	
			M 2	86	135	196	242	265		
			L 1	54	84	134	198	231		
	Cooling	Cooling Capacity	H 3	BTU/Hr	3228	5400	7685	9607	11143	
			M 2		2700	4411	6479	8016	9103	
			L 1		1886	3018	4818	6898	8204	
		Sensible Cooling Capacity	H 3		2182	3588	5124	6410	7415	
			M 2		1802	2894	4269	5284	5982	
			L 1		1231	1937	3119	4525	5373	
	Heating	Heating Capacity	H 3	BTU/Hr	4123	6746	9522	11836	13722	
			M 2		3422	5496	7968	9878	11115	
			L 1		2383	3801	5937	8440	9963	
	Sound	Sound Pressure Level [Outlet]		dB(A)						
				48/42/37						
	Electrical	Fan Motor Power		W						
				14 17 22 22 24						
		Fan Motor Running Current		A						
	Hydraulic	Cooling Water Flow Rate		GPM						
				0.64 1.07 1.52 1.9 2.2						
		Cooling Pressure Drop		FL.Hd						
		2.5 8.1 6.2 5.0 7.6								
Heating Water Flow Rate		GPM								
		0.21 0.34 0.47 0.59 0.68								
Heating Pressure Drop		FL.Hd								
		0.7 2.1 5.2 1.3 1.9								
Chilled Water Content		Gal								
		0.06 0.1 0.14 0.18 0.22								
Hot Water Content		Gal								
		0.030 0.050 0.070 0.090 0.110								
CONSTRUCTION AND PACKING DATA		Water Connections		Type						
				NPT Threaded female						
		Condensate Drainage Connection		in						
				1/2						
		Dimensions*		in						
		29-1/8 37 44-7/8 52-3/4 60-5/8								
Net Weight		Lbs								
		41.9 48.5 55.2 61.8 68.4								

Cooling mode (4 pipe):

Return air temperature: 80F DB/ 67F WB.
Inlet/outlet water temperature: 45F / 55F.

* Product dimensions are within ± 1/16 inches.

Heating mode (4 pipe):

Return air temperature: 70F.
Inlet/outlet water temperature: 180F/140F.

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Product Accessories

CONTROL ACCESSORIES



INFRA-RED HANDSET CONTROLLER + WALL HOLDER

(AVAILABLE WITH S TOTAL CONTROL BOARD)

With Global Control functionality for Main and Secondary Unit groups.



ABS EXTERNAL LED RECEIVER

IR receiver in ABS housing with up to 70in 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 WITH S 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). Complete with Onboard Room Air Temperature Sensor.



DIP SWITCH CONFIGURATION SERVICE

(AVAILABLE WITH S TOTAL CONTROL BOARD)

Preset DIP switches for master/slave option, 2/4-pipe, Preheat temperature, Operation mode settings.

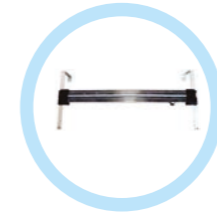


UNIVERSAL EC THERMOSTAT

(AVAILABLE WITH FLEXI W CONTROL BOARD)

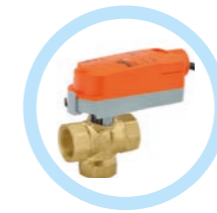
Main functions: 2-pipe, 4-pipe, 2-pipe +floor heating mode, floor heating, cooling. AC/EC motor 3-speed control. Motorized valve control. 0-10 VDC Modulating valve. EC motor RPM control. Low temperature protection. Remote ON/OFF function. Cooling and heating contac. Modbus protocol. Power supply: 24 Vac or VDC. Working environment: 0-50°C, 5-95%RH (no condensate). Self-power consumption: <2W. Protection class: IP30.

MORE ACCESSORIES



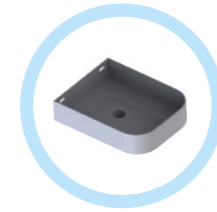
ELECTRICAL HEATERS

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.



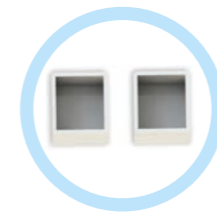
VALVES + ACTUATOR

2-way or 3-way valve with motorized 24V on/off or modulating actuator. 0.3W power consumption on actuator. 360 psi body rating with 75 psi close-off pressure for valves.



AUXILIARY DRAIN PANS FOR VERTICAL OR HORIZONTAL INSTALLATIONS

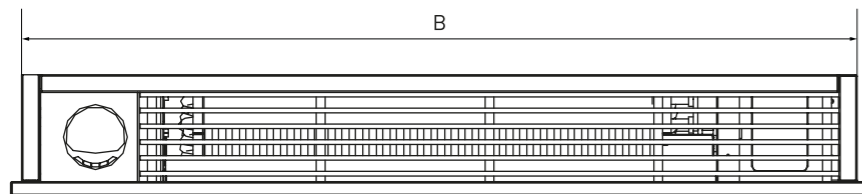
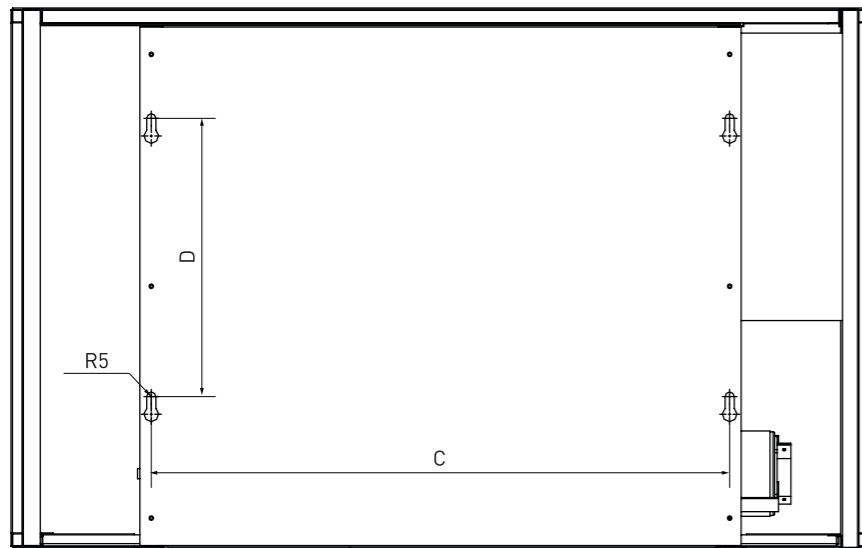
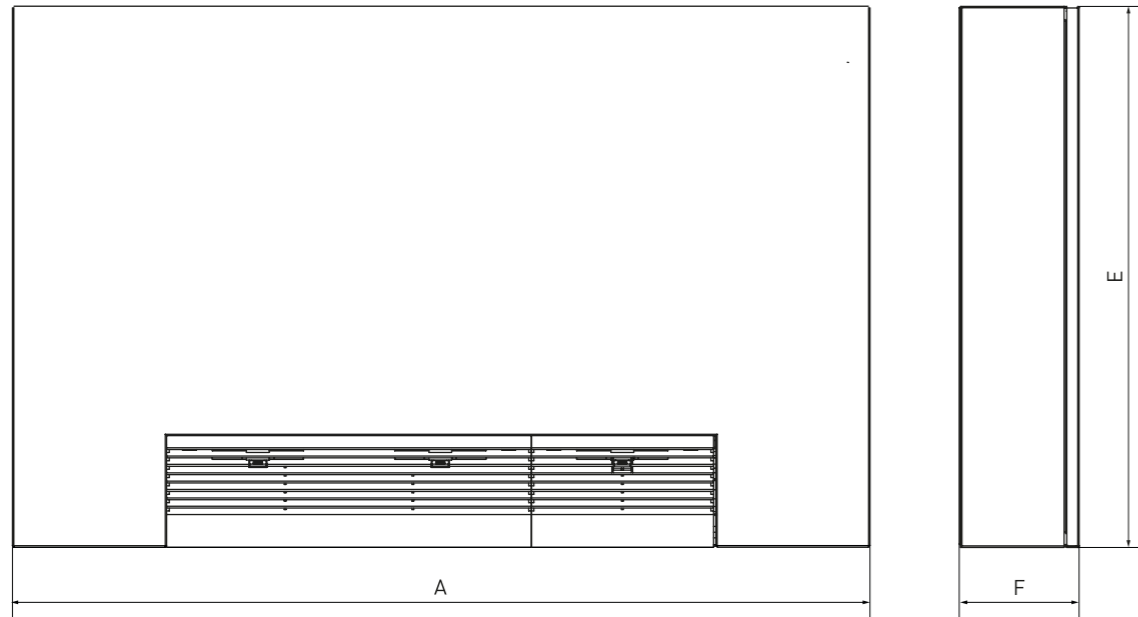
Painted steel drain pans for suspended ceiling, built-in horizontal or floor standing fixed wall installations with right/left-sided coil connections.



METAL FEET FOR FLOOR STANDING PFWSL

See Technical Manual for further information.

Dimensional Drawings PFWSL-Y-AECM, 2 and 4 Pipe Models



Dimensional Data PFWSL-Y-AECM, 2 and 4 Pipe Models

Model	Unit Dimensions (inches)					
	A	B	C	D	E	F
PFWSL-01	29-1/8	28-3/16	17-1/16	11-13/16	22-13/16	5-1/8
PFWSL-02	37	36-1/16	24-15/16	11-13/16	22-13/16	5-1/8
PFWSL-03	44-7/8	43-15/16	32-13/16	11-13/16	22-13/16	5-1/8
PFWSL-04	52-3/4	51-13/16	40-11/16	11-13/16	22-13/16	5-1/8
PFWSL-05	60-5/8	59-11/16	48-9/16	11-13/16	22-13/16	5-1/8

* Product dimensions are within ± 1/16 inches.