

**ECO L/M-STAT
SLIMLINE
SERIES
FAN COILS**

MODEL PDWSL-ECM

NEW PRODUCT



**ECO L/M STAT SLIMLINE
SERIES FAN COILS**

PDWSL-ECM

Product Presentation

In line with space saving trends and modern industrial design, Sonkor Global HVAC has developed the PDWSL fan coil range to meet the specific demands of performance, size, acoustics, low energy usage, ease of installation and maintenance for low height concealed ducted fan coils. All the PDWSL fan coils with centrifugal fans and a condensate water pumps are equipped with EC motors which reduce electrical consumption compared to AC models. These products achieve very high energy saving levels as they can be combined with low temperature heat generators such as air or water to water heat pumps and condensing boilers.

With its sophisticated temperature regulator, this product range guarantees thermal comfort in every season. It heats and cools extremely quickly, and once the desired temperature is reached it maintains it accurately and silently.

Product Range

The L/M-STAT Series Slimline Ducted Fan Coils Series offers a range of 230V/50Hz, with the following capacities:

- **3 sizes of 2 pipe models from 3.96kW to 8.52kW (13500 BTU/H to 29100 BTU/H) cooling capacity and from 4.27kW to 9.07kW (14600 BTU/H to 30950 BTU/H) heating capacity.**
- **4 pipe models also available.**

Product Features

• **Energy Efficiency.** The ECO L/M-STAT Slimline Series Low Static Ducted Fan Coils incorporates 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).

• **Casing Design.** The 200mm special height is meant for reduced space installations in hotels, apartments, offices, etc. This fan coil series is perfect for low height ceiling concealed installations.

• **Performance.** The ECO L/M-STAT AMV Series Low Static Ducted Fan Coils are built with optimized forward curved metal centrifugal fans to achieve minimum noise levels as well as an integral quiet condensate pump and with a maximum head of 700 mm.

Standard Configuration

The ECO L/M-STAT Slimline Series Low Static Ducted Fan Coils offer as standard are supplied with return plenum and air filter and statically and dynamically balanced centrifugal fans.

Control Options

The ECO L/M-STAT Slimline Series Low Static Ducted Fan Coils offer 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 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, complete diagnostics. The PCB (printed circuit board) microprocessor controls functionality of the indoor-fan motor, water valves (ON/OFF or modulating) and electric heater (optional).

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, with control of Drain Pump, Zone Control product operations, and limited LED diagnostics.

PDWSL ECM ECO L/M-STAT SLIMLINE SERIES FAN COILS

Technical Specifications (Eurovent Standards)

PDWSL(3R)-V-ECM Hydronic Ductable Unit 3-row coil, 2 pipe with EC Motor

UNIT CONFIGURATION		PDWSL-[Size]-V-ECM		01	02	03
		Configuration		2-pipe		
		Number of Fan Blowers		2	3	4
		Power Supply (V/Ph/Hz)		230 / 1 / 50		
		Operation Control		S Type: Total control version. W Type: Flexible control version.		
PERFORMANCE DATA	Air	Air Flow	H 3	850	1360	1770
			M 2	650	950	1330
			L 1	250	400	570
		Available Pressure	H 3	12	12	12
			M 2	12	12	12
			L 1	12	12	12
	Cooling	Cooling Capacity	H 3	3.96	6.66	8.52
			M 2	3.24	5.07	6.91
			L 1	1.52	2.56	3.55
		Sensible Cooling Capacity	H 3	2.93	4.85	6.26
			M 2	2.36	3.63	5
			L 1	1.1	1.83	2.53
		Latent Cooling Capacity	H 3	1.03	1.81	2.26
			M 2	0.88	1.44	1.91
			L 1	0.42	0.73	1.02
	Heating	Heating Capacity	H 3	4.27	7	9.07
			M 2	3.51	5.37	7.33
			L 1	1.65	2.71	3.8
		Max. Elec. Heater Capacity		1	2	3
	Sound	Sound Pressure Level (Outlet)		46/37/19	49/40/25	50/41/26
		Sound Pressure Level (Inlet + Radiated)		49/40/25	52/43/28	53/44/29
		Sound Power Level (Outlet)		55/46/31	58/49/34	59/50/35
		Sound Power Level (Inlet + Radiated)		58/49/34	61/52/37	62/53/38
	Electrical	Fan Motor Power (1)	H	50	82	100
M			23	40	43	
L			11	15	17	
Fan Motor Running Current	H	0.43	0.71	0.87		
Hydronic	Cooling Water Flow Rate	3	679	1142	1461	
		2	556	869	1185	
		1	261	439	608	
	Cooling Pressure Drop	3	14.1	23.1	14.5	
		2	10	14.5	10.2	
		1	2.8	4.5	3.3	
	Heating Water Flow Rate	3	731	1199	1556	
		2	602	921	1257	
		1	284	465	651	
	Heating Pressure Drop	3	13.4	21.1	13.5	
		2	9.6	13.5	9.4	
		1	2.7	4.2	3.1	
Water Content	L	788	1.36	1.8		
CONSTRUCTION AND PACKING DATA		Water Connections	Type	Socket (Threaded Female)		
			In	3/4"		
		Out	mm			
		Condensate Drainage Connection	25			
		Dimensions	L	800	1235	1570
W	505					
H	200					
Net Weight	Kgs	20	28	35		

Cooling mode (2 pipe):

Return air temperature: 27C DB/19C WB.
Inlet/outlet water temperature: 7C/12C.

Heating mode (2 pipe):

Return air temperature: 20C.
Inlet/outlet water temperature: 45C/40C.

For High ΔT Condition Requirements, please refer to Sonkor Selection Software.

(1): Fan motor power includes PCB power input.

Technical Specifications (Eurovent Standards)

PDWSL(3R)-P-ECM Hydronic Ductable Unit 3-row coil 4 pipe with EC Motor

UNIT CONFIGURATION		PDWSL-[Size]-P-ECM		01	02	03
		Configuration		4-pipe		
		Number of Fan Blowers		2	3	4
		Power Supply (V/Ph/Hz)		230 / 1 / 50		
		Operation Control		S Type: Total control version. W Type: Flexible control version.		
PERFORMANCE DATA	Air	Air Flow	H 3	850	1360	1770
			M 2	650	950	1330
			L 1	250	400	570
		Available Pressure	H 3	12	12	12
			M 2	12	12	12
			L 1	12	12	12
	Cooling	Cooling Capacity	H 3	3.96	6.66	8.52
			M 2	3.24	5.07	6.91
			L 1	1.52	2.56	3.55
		Sensible Cooling Capacity	H 3	2.93	4.85	6.26
			M 2	2.36	3.63	5
			L 1	1.1	1.83	2.53
		Latent Cooling Capacity	H 3	1.03	1.81	2.26
			M 2	0.88	1.44	1.91
			L 1	0.42	0.73	1.02
	Heating	Heating Capacity	H 3	3.46	5.58	7.42
			M 2	2.85	4.31	6.04
			L 1	1.42	2.29	3.25
		Sound	Sound Pressure Level (Outlet)		46/37/19	49/40/25
	Sound Pressure Level (Inlet + Radiated)		49/40/25	52/43/28	53/44/29	
	Sound Power Level (Outlet)		55/46/31	58/49/34	59/50/35	
	Sound Power Level (Inlet + Radiated)		58/49/34	61/52/37	62/53/38	
	Electrical	Fan Motor Power (1)	H	50	82	100
			M	23	40	43
L			11	15	17	
Fan Motor Running Current	H	0.43	0.71	0.87		
Hydronic	Cooling Water Flow Rate	3	679	1142	1461	
		2	556	869	1185	
		1	261	439	608	
	Cooling Pressure Drop	3	14.1	23.1	14.5	
		2	10	14.5	10.2	
		1	2.8	4.5	3.3	
	Heating Water Flow Rate	3	731	1199	1556	
		2	602	921	1257	
		1	284	465	651	
	Heating Pressure Drop	3	13.4	21.1	13.5	
		2	9.6	13.5	9.4	
		1	2.7	4.2	3.1	
Water Content	L	788	1.36	1.8		
CONSTRUCTION AND PACKING DATA		Cooling Water Connections	Type	Socket Threaded Female		
			In	3/4"		
		Out	mm			
		Heating Water Connections	1/2"			
		Condensate Drainage Connection	25			
Dimensions	L	800	1235	1570		
	W	505				
	H	200				
Net Weight	kg	20	28	35		

Cooling mode (4 pipe):

Return air temperature: 27C DB/19C WB.
Inlet/outlet water temperature: 7C/12C.

Heating mode (4 pipe):

Return air temperature: 20C.
Inlet/outlet water temperature: 65C/55C.

For High ΔT Condition Requirements, please refer to Sonkor Selection Software.

(1): Fan motor power includes PCB power input.

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MODEL PDWSL-ECM

Product Accessories

CONTROL ACCESSORIES



INFRA-RED HANDSET CONTROLLER + WALL HOLDER

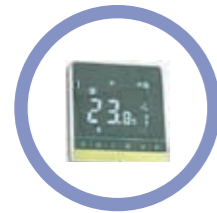
(AVAILABLE ONLY FOR TOTAL CONTROL BOARD)

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). Onboard Room Air Temperature Sensor.



DIP SWITCH CONFIGURATION SERVICE

Preset Dip switch configuration for addressing Main Unit to Secondary Units. Dip Switch configuration labelled with carton tag.



UNIVERSAL EC THERMOSTAT

(FOR FLEXI 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 contact. 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.

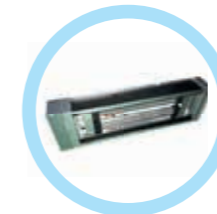


STCD SERIES THERMOSTATS

(FOR FLEXI CONTROL BOARD)

Please visit www.sonkor.com for further information on our STCD thermostat range.

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 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.



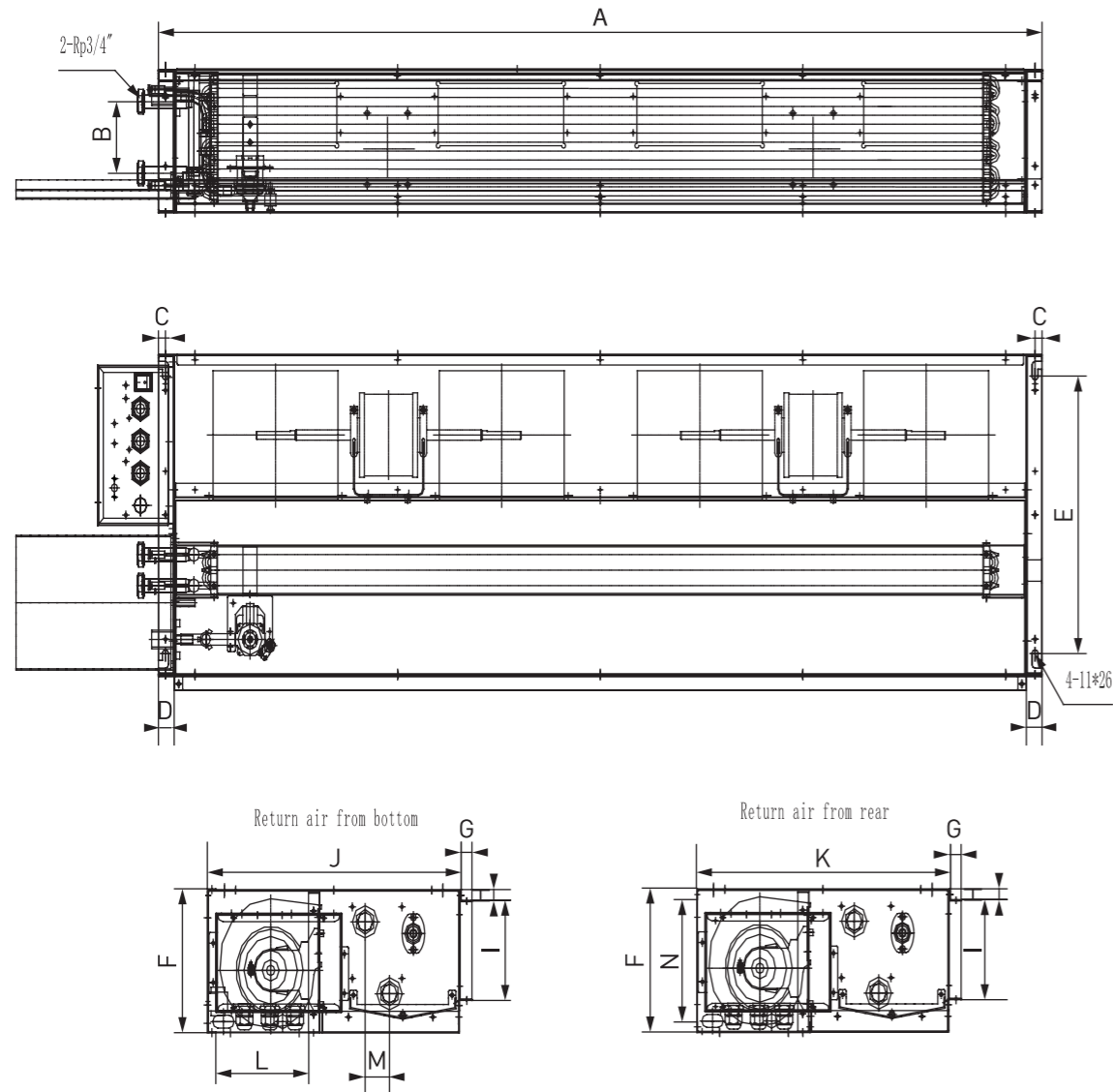
VALVES + VALVE KIT

2-way On/Off or 3-way bypass ball valves, 3/4" and 1/2" size, with motorized or modulating 24VAC 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 40m (1.6in) for hot water circuit, and 50mm (2in) for cold water circuit.

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FAN COILS** MODEL PDWSL-ECM

Dimensional Drawings (mm) PDWSL-ECM 2 Pipe Models



Model	Unit Dimensions (mm)													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
PDWSL-01	800	100	12.5	28	388	200	20	15	140	450	460	165	43.3	170
PDWSL-02	1235	100	12.5	28	388	200	20	15	140	450	460	165	43.3	170
PDWSL-03	1570	100	12.5	28	388	200	20	15	140	450	460	165	43.3	170