

M/H-STAT AMV SERIES FAN COILS

Product Presentation

The M/H-STAT AMV Series Medium Static Ducted Fan Coils have been specifically designed to satisfy high cooling capacity 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 M/H-STAT AMV Series Medium Static Ducted Fan Coils Series offers a range of 230V/50Hz, with the following capacities:

- **8 models of 2 pipe 3 / 4 row from 3.45kW to 21.79kW (11800 BTU/H to 74350 BTU/H) cooling capacity and 3.38kW to 20.95kW (11500 BTU/H to 71500 BTU/H) heating capacity.**
- **8 models of 4 pipe 3+1 / 4+1 row from 3.61kW to 22.29kW (12300 BTU/H to 76100 BTU/H) cooling capacity and 2.94kW to 14.57kW (10000 BTU/H to 49700 BTU/H) heating capacity.**
- **External Static Pressure available from 50Pa to 150Pa (0.4 to 0.6 in.wg).**

PDWC

Product Features

• **Design.** The M/H-STAT AMV Series Medium Static 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 M/H-STAT AMV Series Medium Static 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 M/H-STAT AMV Series Medium Static 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 water inlet and outlet directions, when required.

• **Performance.** The M/H-STAT AMV Series Medium Static 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 M/H-STAT AMV Series Medium Static Ducted Fan Coils can supply more air flow at higher ESP, with an air flow range from 400 to 2000 m³/h at medium speed at an ESP of 120Pa.

Standard Configuration

The M/H-STAT AMV Series Medium Static Ducted Fan Coils are supplied with return plenum, 7mm air filter with aluminum frame, interchangeable left/right-side coil connections and statically and dynamically balanced centrifugal fans.

Control Options

The M/H-STAT AMV Series Medium Static Ducted Fan Coils offer 2 different control options 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 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.

• **Terminal Strip Only (T type)** – Terminal Strip provided for wired remote thermostat applications, Suitable for AC motor wired thermostats with L/M/H/*Auto speed on/off signals and with integrated fan relays 1-to-many zone control.



PDWC AC M/H-STAT AMV SERIES FAN COILS

Technical Specifications (Eurovent Standards)

PDWC[3R/4R]-V Hydronic Ductable Unit 3/4-row coil, 2 pipe with 3 speed AC Motor

UNIT CONFIGURATION		PDWC-V-[Size]		400	500	600	800	1000	1400	1600	2000						
		Configuration		2-pipe													
		Number of Fan Blowers		Single	Twin	Single	Twin			Four							
		Power Supply	[V/Ph/Hz]	230 / 1 / 50													
		S Type: Total control version. T Type: Terminal Strip Only.															
PERFORMANCE DATA	Air	Air Flow	H	m³/h	625	850	1190	1400	1820	2366	2800	3640					
			M		578	780	1080	1220	1652	2050	2440	3160					
			L		420	720	800	1025	1330	1730	2050	2660					
	Available Pressure	Pa	H		120												
			M		120												
			L		120												
	Cooling	Cooling Capacity	H	kW	3.45	4.62	6.54	7.16	9.62	12.43	14.42	21.79					
			M		3.24	4.34	6.09	6.43	8.93	11.16	12.95	19.56					
			L		2.54	4.08	4.82	5.65	7.57	9.81	11.39	17.2					
		Sensible Cooling Capacity	H		2.46	3.29	4.64	5.16	6.8	8.84	10.32	15.34					
			M		2.29	3.06	4.29	4.59	6.29	7.86	9.17	13.63					
			L		1.78	2.87	3.36	4.01	5.3	6.87	8.03	11.92					
		Latent Cooling Capacity	H		0.99	1.33	1.9	2	2.82	3.59	4.1	6.45					
			M		0.95	1.28	1.8	1.84	2.64	3.3	3.78	5.93					
			L		0.76	1.21	1.46	1.64	2.27	2.94	3.36	5.28					
	Heating	Heating Capacity	H	kW	3.38	4.5	6.34	7.12	10.32	12.12	14.19	20.95					
			M		3.18	4.2	5.86	6.4	9.63	10.9	12.75	18.84					
			L		2.49	3.97	4.66	5.57	8.07	9.48	11.09	16.38					
	Max. Elec. Heater Capacity		1	2		3											
PERFORMANCE DATA	Sound	Sound Pressure Level [outlet]		dB(A)	43/41/39	45/43/42	50/47/45	56/54/51	54/53/51	57/56/54	60/58/55	57/56/54					
		Sound Pressure Level [Inlet+Radiated]			46/44/42	48/46/45	53/50/48	59/57/54	57/56/54	60/59/57	63/61/58	60/59/57					
		Sound Power Level [outlet]			52/50/48	54/52/51	59/56/54	65/63/60	63/62/60	66/65/63	69/67/64	66/65/63					
		Sound Power Level [Inlet+Radiated]			55/53/51	57/55/54	62/59/57	68/66/63	66/65/63	69/68/66	72/70/67	69/68/66					
	Electrical	Fan Motor Power (1)	H	W	180	230	286	350	320	356	525	640					
			M		162	207	258	315	288	320	475	575					
			L		140	176	220	270	245	275	405	490					
		Fan Motor Running Current		H	0.78	1.00	1.24	1.52	1.39	1.55	2.28	2.78					
		Fan Motor Starting Current			2.35	3.00	3.73	4.57	4.17	4.64	6.85	8.35					
	Hydronic	Cooling Water Flow Rate	3	L/h	591	793	1121	1227	1649	2131	2472	3735					
			2		555	744	1043	1102	1531	1913	2220	3354					
			1		436	699	827	969	1297	1682	1952	2949					
		Cooling Pressure Drop	3	kPa	15.63	28.63	30.79	19.98	25.82	45.41	29.91	49.54					
			2		14.03	25.7	27.24	16.64	22.77	37.82	24.92	41.26					
			1		9.3	23.12	18.33	13.37	17.17	30.39	20.02	33.16					
		Heating Water Flow Rate	3	L/h	580	771	1087	1221	1770	2078	2432	3591					
			2		546	720	1005	1098	1651	1868	2186	3229					
			1		426	680	800	955	1384	1625	1902	2809					
		Heating Pressure Drop	3	kPa	12.61	23.04	24.62	16.64	24.46	36.82	24.73	39.43					
			2		11.38	20.48	21.54	13.88	21.74	30.73	20.64	32.91					
			1		7.48	18.59	14.6	10.95	16.1	24.24	16.28	25.96					
CONSTRUCTION AND PACKING DATA	Water Content		L	1.09		1.27	1.84	1.75	2.43	2.88	3.33	5.04					
	Dimensions	Type	In	Soket Threaded Female													
			Out	R 3/4"													
		Condensate Drainage Connection		mm	855	955	1255	1055	1355	1555	1755	1955					
		L	620					620									
		W	300					350									
		H															
		Net Weight		kg	28	37	44	46	48	55	63	83					

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.

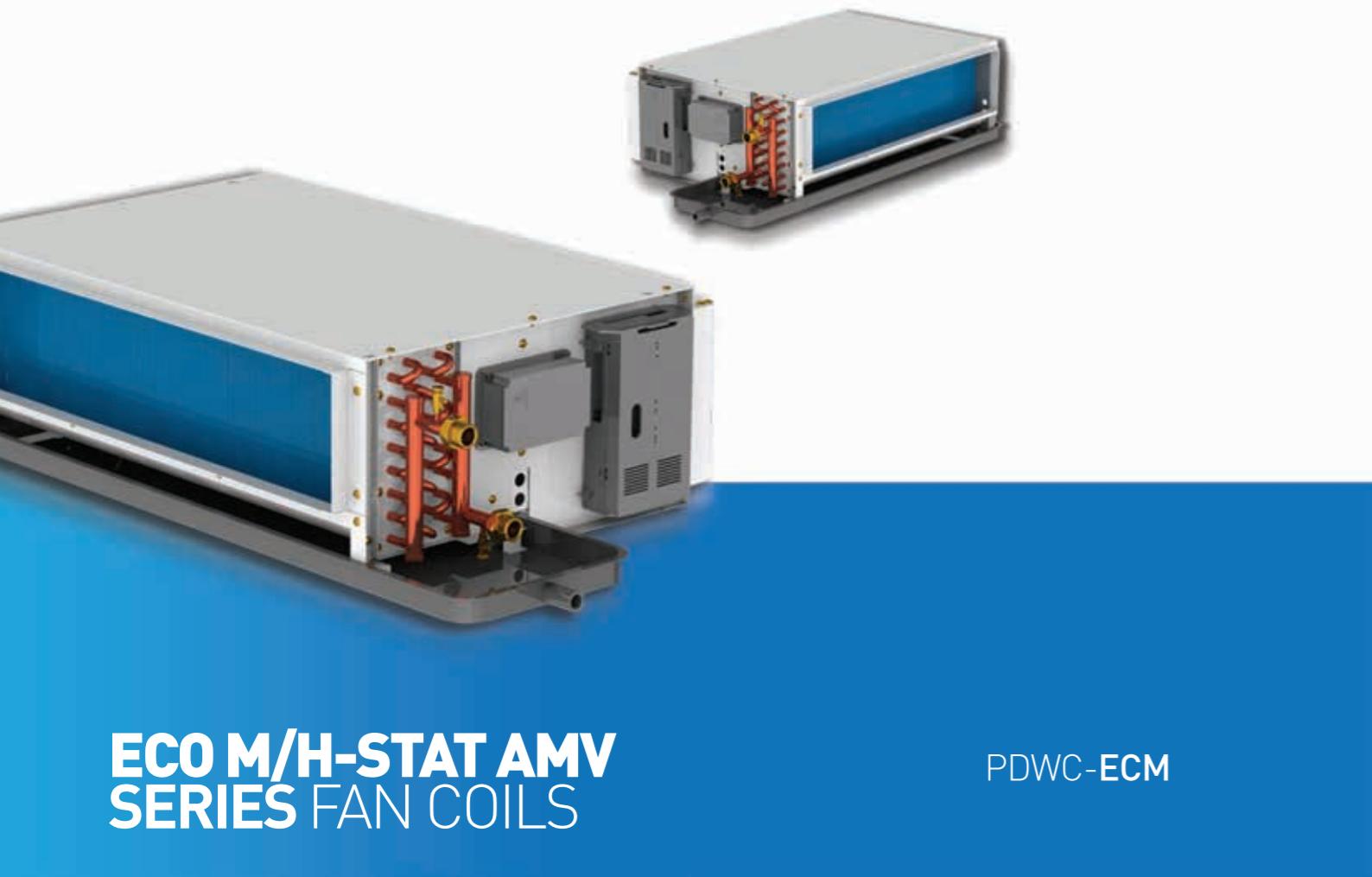
For High ΔT Condition Requirements, please refer to Sonkor Selection Software.

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

Technical Specifications (Eurovent Standards)

PDWC[3+1R/4+1R]-P Hydronic Ductable Unit 3+1/4+1 row coil, 4 pipe with 3 speed AC Motor

UNIT CONFIGURATION		PDWC-P-[Size]		400	500	600	800	100



Product Presentation

The ECO M/H-STAT AMV Series Medium Static Ducted Fan Coils have been specifically designed to satisfy high cooling capacity 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 M/H-STAT AMV Series Medium Static Ducted Fan Coils Series offers a range of 230V/50Hz, with the following capacities:

- **7 models of 2 pipe 3 row from 3.43kW to 14.3kW (11700 BTU/H to 48800 BTU/H) cooling capacity and 4.18kW to 17.45kW (14300 BTU/H to 59550 BTU/H) heating capacity.**
- **7 models of 4 pipe 3+1 row Auxiliary coil from 3.61kW to 14.75kW (12300 BTU/H to 50300 BTU/H) cooling capacity and 2.94kW to 11.57kW (10000 BTU/H to 39500 BTU/H) heating capacity.**
- **External Static Pressure available from 50Pa to 150Pa (0.4 to 0.6 in.wg).**

Product Features

- **Energy Efficiency.** The ECO M/H-STAT AMV Series Medium 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).

- **Design.** The ECO M/H-STAT AMV Series Medium Static 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 M/H-STAT AMV Series Medium Static 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 M/H-STAT AMV Series Medium Static 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 water inlet and outlet directions, when required.

- **Performance.** The ECO M/H-STAT AMV Series Medium Static 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 M/H-STAT AMV Series Medium Static Ducted Fan Coils can supply more air flow at higher ESP, with an air flow range from 400 to 2000 m³/h at medium speed at an ESP of 120Pa.

Standard Configuration

The M/H-STAT AMV Series Medium Static Ducted Fan Coils are supplied with return plenum, 7mm air filter with aluminum frame, interchangeable left/right-side coil connections and statically and dynamically balanced centrifugal fans.

Control Options

The ECO M/H-STAT AMV Series Medium Static Ducted Fan Coils offer 2 different control options to satisfy specific applications.

- **Total Control Board (S2 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 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 (W2 type)** – Flexible function control for External Thermostat applications, with control of Drain Pump, Zone Control product operations, and limited LED diagnostics.



PDWC EC ECO M/H-STAT AMV SERIES FAN COILS

Technical Specifications (Eurovent Standards)

PDWC[3R]-V-ECM Hydronic Ductable Unit 3-row coil, 2 pipe with EC Motor

UNIT CONFIGURATION	PDWC-[Size]-V-ECM		400	500	600	800	1000	1400	1600				
	Configuration		2-pipe										
	Number of Fan Blowers		Single	Twin	Single	Twin							
	Power Supply [V/Ph/Hz]		230 / 1 / 50										
	Operation Control		S / S2 Type: Total control version. W / W2 Type: Flexible control version.										
PERFORMANCE DATA	Air	Air Flow	H	3	m³/h	625	850	1190	1400	1820	2366	2800	
			M	2		578	780	1080	1220	1652	2050	2440	
			L	1		420	720	800	1025	1330	1730	2050	
		Available Pressure	H	3	Pa	120							
			M	2		120							
			L	1		120							
	Cooling	Cooling Capacity	H	3	kW	3.43	4.6	6.51	7.12	9.52	12.4	14.3	
			M	2		3.22	4.29	6.02	6.39	8.82	11	12.8	
			L	1		2.49	4.02	4.72	5.57	7.42	9.63	11.2	
		Sensible Cooling Capacity	H	3	kW	2.46	3.29	4.64	5.16	6.85	8.84	10.3	
			M	2		2.31	3.06	4.29	4.61	6.33	7.87	9.23	
			L	1		1.77	2.87	3.34	4	5.3	6.85	8	
	Heating	Heating Capacity	H	3	kW	4.18	5.61	7.94	8.69	11.61	15.13	17.45	
			M	2		3.93	5.23	7.34	7.80	10.76	13.42	15.62	
			L	1		3.04	4.90	5.76	6.80	9.05	11.75	13.66	
		Max. Elec. Heater Capacity				1	2	3					
		Sound	Sound Pressure Level [outlet]		dB(A)	43/41/40	45/43/42	50/47/45	56/54/51	54/53/51	57/56/54	60/58/55	
			Sound Pressure Level [Inlet+Radiated]			46/44/42	48/46/45	53/50/48	59/57/54	57/56/54	60/59/57	63/61/58	
			Sound Power Level [outlet]			52/50/49	54/52/51	58/56/54	65/63/60	63/62/60	66/65/63	69/67/64	
			Sound Power Level [Inlet+Radiated]			55/53/51	57/55/54	62/59/57	68/66/63	66/65/63	69/68/66	72/70/67	
	Electrical	Fan Motor Power ⁽¹⁾	H	W	106	120	150	187	338	461	485		
			M		97	104	118	149	265	354	372		
			L		72	91	101	103	158	205	216		
		Fan Motor Running Current	H	A	0.96	1.09	1.36	1.7	1.54	2.10	2.20		
		Hydronic	Cooling Water Flow Rate	L/h	589	789	1117	1222	1634	2121	2457		
			2		553	737	1034	1097	1514	1893	2205		
			1		427	691	811	955	1274	1654	1920		
			Cooling Pressure Drop	kPa	15.4	28.3	30.4	19.7	25.1	45	29.6		
			2		13.9	25.2	26.6	16.4	22	36.9	24.5		
			1		8.88	22.5	17.5	12.9	16.3	29.2	19.3		
		Heating Water Flow Rate		L/h	Same as "Cooling Water Flow Rate"								
		Heating Pressure Drop	3	kPa	12.5	22.9	24.6	16.0	20.3	36.5	24.0		
			2		11.3	20.4	21.5	13.3	17.8	29.9	19.8		
			1		7.2	18.2	14.2	10.4	13.2	23.7	15.6		
		Water Content		L	1.09	1.27	1.84	1.75	2.43	2.88	3.33		
CONSTRUCTION AND PACKING DATA	CONSTRUCTION AND PACKING DATA	Water Connections	Type	Socket Threaded Female									
			In	in.	R 3/4"								
			Out		R 3/4"								
		Condensate Drainage Connection		mm	855	955	1255	1055	1355	1555	1755		
		Dimensions	L		620								
			W		300								
			H		350								
		Net Weight		kg	28	37	44	46	48	55	63		

Cooling mode (2 pipe):

Heating mode (2 pipe):

Return air temperature: 27C DB/19C WB.

Return air temperature: 20C.

Inlet/outlet water temperature: 7C/12C.

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)

PDWC[3+1R]-P-ECM Hydronic Ductable Unit 3+1 row coil, 4 pipe with EC Motor

UNIT CONFIGURATION	PDWC-[Size]-P-ECM		400	500	600	800	1000	1400	1600				
	Configuration		4-pipe										
	Number of Fan Blowers		Single	Twin	Single	Twin							
	Power Supply [V/Ph/Hz]		230 / 1 / 50										
	Operation Control		S / S2 Type: Total control version. W / W2 Type: Flexible control version.										
PERFORMANCE DATA	Air	Air Flow	H	3	m³/h	667	881	1264	1437	1895	2442		

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.



AUXILIARY HEATING COILS

Factory installed heating coil for 4 pipe applications.



VALVES + VALVE KITS

2-way On/Off or 3-way bypass ball valves, ¾" 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.



INSULATION FOR SOUND ATTENUATION

5mm (0.20 inches), 10mm (0.40 inches) or 15mm (0.60 inches) NBR material insulation for sound attenuation.



OPTIONAL STAINLESS STEEL DRAIN PAN



SIDE DRAIN OUTLET FOR CONDENSATE PAN



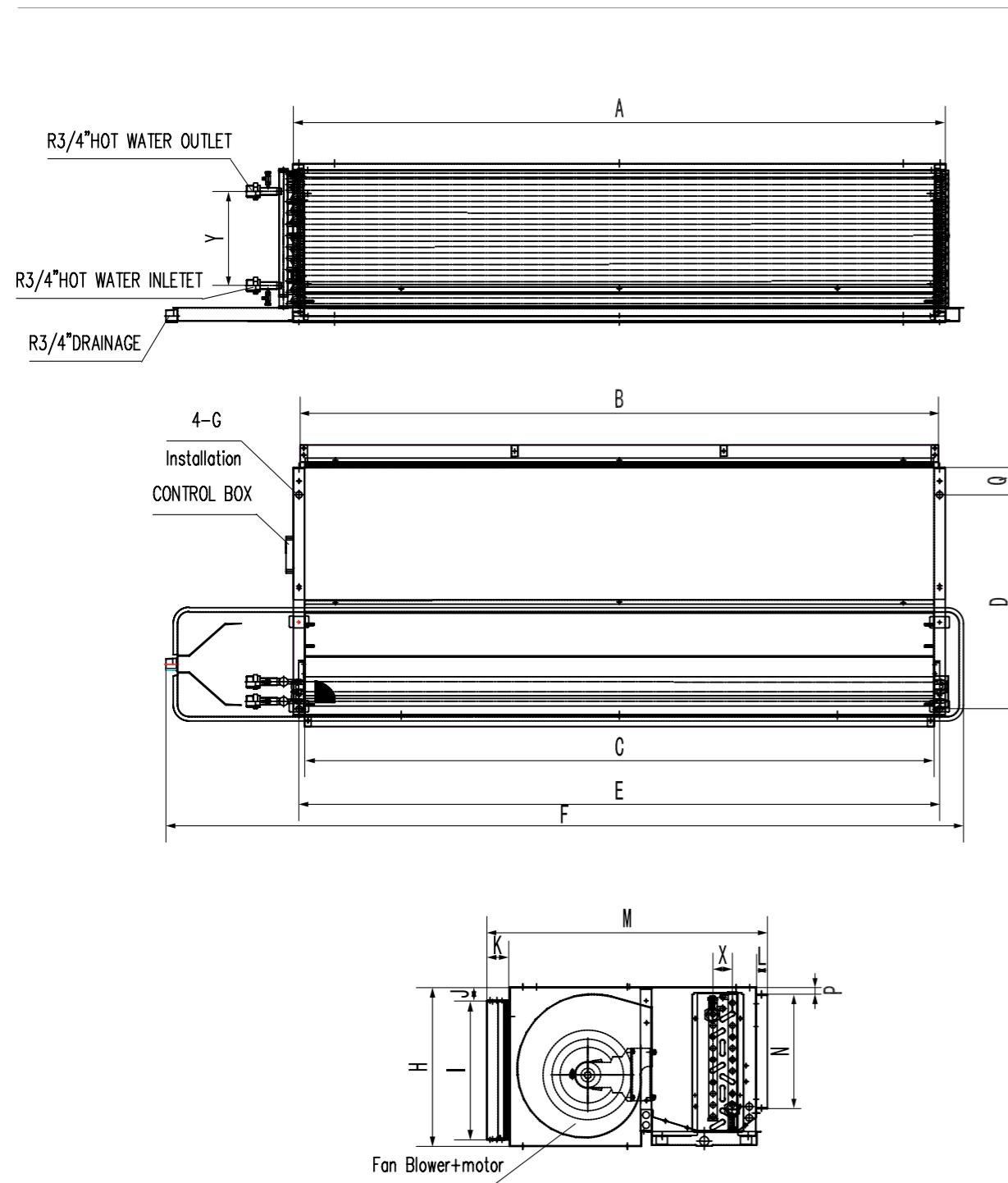
RETURN AIR AND DISCHARGE



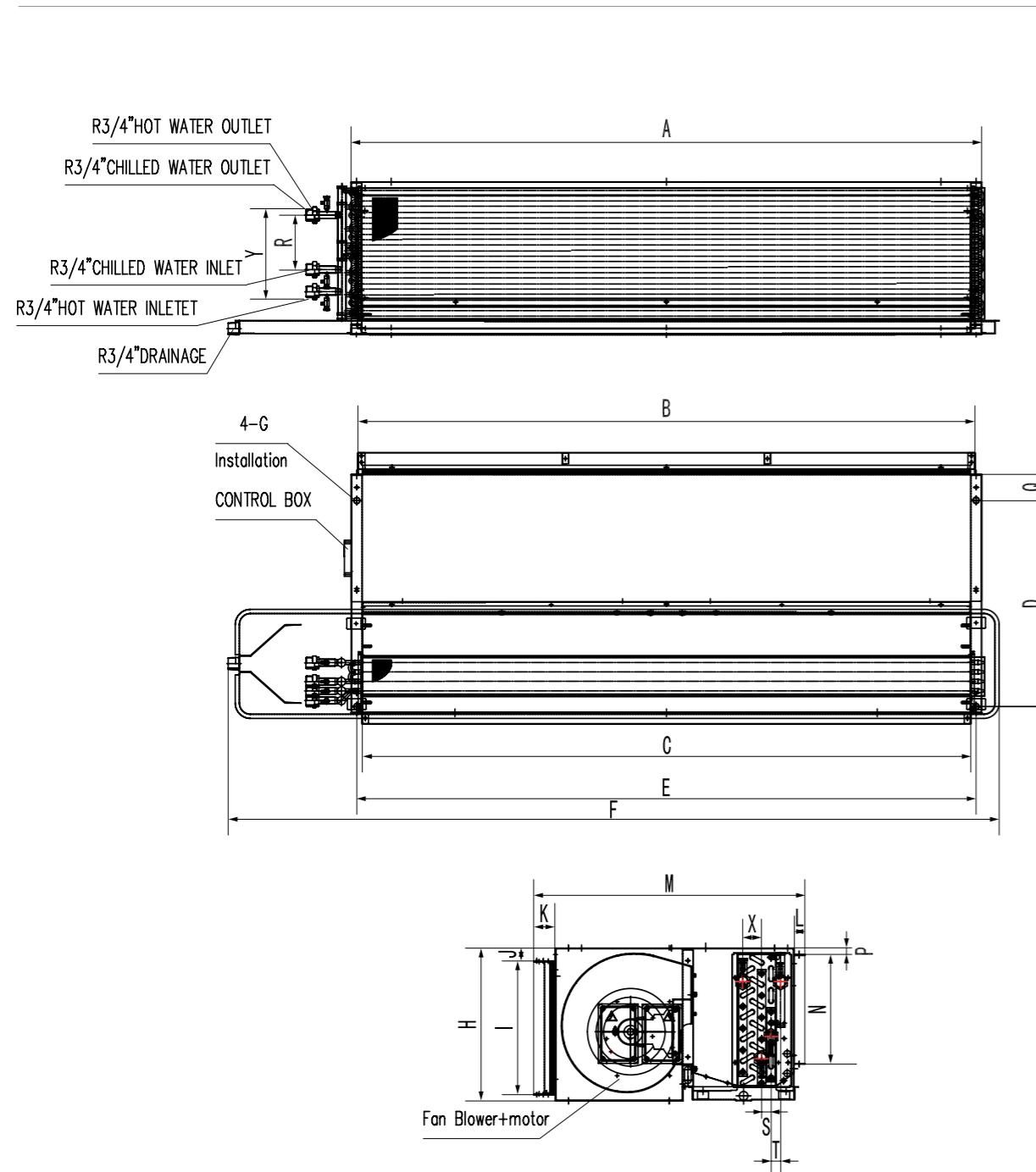
2-WAY INLET PLENUM WITH ADJUSTABLE DAMPER



DISCHARGE PLENUM WITH CIRCULAR FITTINGS

Dimensional Drawings (mm) PDWC (3R) / PDWC (4R), 2 Pipe, AC & ECM Models


Model	Unit Dimensions (mm)																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	X	Y
PDWC(3R)-400-V	635	605	585	470	610	855	φ14	300	256	30	50	25	620	202	15	60	43,3	150
PDWC(3R)-500-V	735	705	685	470	710	955	φ14	300	256	30	50	25	620	202	15	60	43,3	150
PDWC(3R)-600-V	935	905	885	470	910	1255	φ14	300	256	30	50	25	620	202	15	60	43,3	150
PDWC(3R)-800-V	735	705	685	470	710	955	φ14	350	306	30	50	25	620	252	15	60	43,3	200
PDWC(3R)-1000-V	1035	1005	985	470	1010	1355	φ14	350	306	30	50	25	620	252	15	60	43,3	200
PDWC(3R)-1400-V	1235	1205	1185	470	1210	1555	φ14	350	306	30	50	25	620	252	15	60	43,3	200
PDWC(3R)-1600-V	1435	1405	1385	470	1410	1755	φ14	350	306	30	50	25	620	252	15	60	43,3	200
PDWC(4R)-2000-V	1695	1665	1645	470	1670	1955	φ14	350	306	30	50	25	620	252	15	60	65	200

Dimensional Drawings (mm) PDWC (3R+1), 4 Pipe, AC & ECM Models


Model	Unit Dimensions (mm)																				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	X	Y	R	S	T
PDWC(3R+1)-400-P	635	605	585	470	610	855	φ14	300	256	30	50	25	620	202	15	60	43,3	150	100	21,65	22
PDWC(3R+1)-500-P	735	705	685	470	710	955	φ14	300	256	30	50	25	620	202	15	60	43,3	150	100	21,65	22
PDWC(3R+1)-600-P	935	905	885	470	910	1255	φ14	300	256	30	50	25	620	202	15	60	43,3	150	100	21,65	22
PDWC(3R+1)-800-P	735	705	685	470	710	955	φ14	350	306	30	50	25	620	252	15	60	43,3	200	125	21,65	22
PDWC(3R+1)-1000-P	1035	1005	985	470	1010	1355	φ14	350	306	30	50	25	620	252	15	60	43,3	200	125	21,65	22
PDWC(3R+1)-1400-P	1235	1205	1185	470	1210	1555	φ14	350	306	30	50	25	620	252	15	60	43,3	200	125	21,65	22
PDWC(3R+1)-1600-P	1435	1405	1385	470	1410	1755	φ14	350	306	30	50	25	620	252	15	60	43,3	200	125	21,65	22
PDWC(4R+1)-2000-P	1695	1665	1645	470	1670	1955	φ14	350	306	30	50	25	620	252	15	60	65	200	125	21,65	22