

SM Series

The SM Series™ of Fan Coil Units is ideal for in-ceiling installations and includes AC or EC single phase motors.

New Royal Adelaide Hospital

South Australia's single largest infrastructure project will deliver a state-of-the-art hospital with the capacity to admit around 80,000 patients per year. Situated in Adelaide's west end medical precinct, the new Royal Adelaide Hospital is seven times the size of its neighbouring SA Health and Medical Research Institute (SAHMRI). It features the latest medical technology and has a strong focus on patient wellbeing with single patient rooms that include opening windows, natural light, and access to outdoors with over 70 internal courtyards.

Over 300 Air Design SM series fan coil units and more than 95 MODUtherm air handling units deliver filtered fresh air throughout the building. Fantech in-line fans, attenuators and JetVent car park fans complement the sustainable initiatives that make this the 'greenest' hospital in South Australia.

Location: North Terrace, Adelaide

Consultant: LCI and Bestec

Mechanical contractor: BSA and Watson Fitzgerald & Associates



Advanced Engineering Building, University of Queensland

Engineering students at the University of Queensland's St Lucia campus will benefit from a hands-on approach to learning thanks to the unique design of the new Advanced Engineering Building. The building connects students, researchers and industry, and has earned a 5-star Green Star – Education Design v1 rating from the Green Building Council of Australia,

Designed to encourage learning, the building features exposed concrete, steel and timber components allowing the structural loads and stresses to be monitored over time. Similarly, the various mechanical services systems which include Air Design's SM series fan coil units, are in full view as a learning tool.

Screens throughout the structure show how the building adapts during the day with the self-managed energy output, water consumption and waste production.

Location: St Lucia, Queensland

Consultant: Cundall

Mechanical contractor: AE Smith

Projects





New Royal Adelaide Hospital



Advanced Engineering Building, University of Queensland

SM Series

Fan Coil Units with AC or EC fan motors.
Up to 1,900 Litres/Sec.



The SM Series™ of Fan Coil Units is ideal for in-ceiling installations and include fans driven by AC or EC single phase motors. Their quality 1.2mm galvanised metal casing is internally lined with 20mm polyethylene insulation foam to provide resistance to condensation.

The EC direct drive fans are energy efficient (achieving IE5 efficiency levels) and can be controlled by MODBUS or a plug and play 0-10V signal.

Each side of the unit includes a sealed access panel. These units are available in 5 standard sizes with air flows from 200 to 1900 litres per second and come in both horizontal and vertical configurations.

Features

- Low profile galvanised casings with internally lined 20mm closed cell polyethylene insulation foam
- Internal insulation foam is covered with a tough and durable aluminium foil to provide a clean and neat finish.
- Available with AC or EC single phase fan motors
- High performance direct drive DWDI forward-curved fans
- To minimise on-site installation time fan motors are pre-wired to a junction box
- Chilled water cooling coils available with 4, 5 or 6 rows and 315, 394, 433 or 472 fins per metre
- Hot water heating coils available with 1 or 2 rows and 315, 394, 433 or 472 fins/per metre
- Combined maximum of 6 cooling and heating rows per unit
- Range available in 5 sizes 200-1900L/sec
- Available in horizontal or vertical configuration

Construction

Units are manufactured from 1.2mm galvanised sheet metal and are internally lined with 20mm polyethylene insulation foam. The insulation is covered with a tough aluminium foil.

Each side of the unit includes a sealed access panel that enables inspection and cleaning. The condensate tray is manufactured from 1.0mm thick aluminium sheet.

Fans are direct drive forward-curved centrifugal type with AC or EC motors and are in a single or dual arrangement depending on the model size.

Fans

High performance direct drive forward curved fans

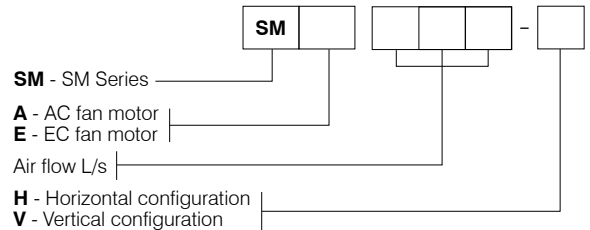
AC Configuration (SMA)

- Single phase 240V, 50Hz motor
- Three speed motor (one speed selectable)
- Thermal protection

EC Configuration (SME)

- Single phase 240V, 50Hz motor
- IE5 efficiency class
- IP54 rated
- Integrated EC controller for infinite speed control
- Overload and thermal protection

How to order



Select unit based on air flow.

Fantech to complete selection with customer based on the required cooling coil and heating coil data.

Suggested Specification

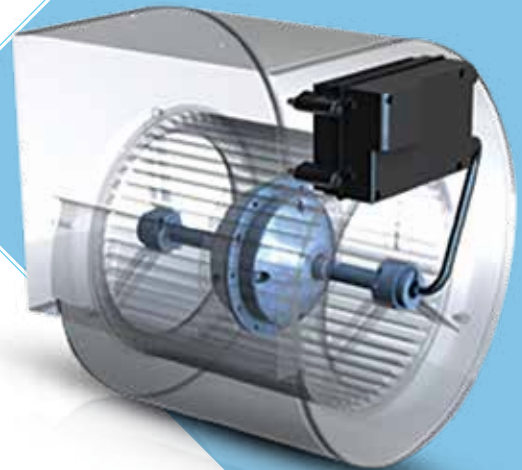
The fan coil units shall be of the SM Series as designed by Fantech and be of the model numbers shown on the schedule/drawings.

Units shall be manufactured from 1.2mm thick galvanised steel, internally lined with 20mm closed cell polyethylene. Insulation foam shall be covered with a heavy duty, bonded non-perforated aluminium foil.

Condensate Tray shall be aluminium 1.0mm thick.

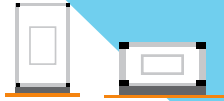
Water coils shall be half inch diameter copper tubes having 0.4mm wall thickness with sine wave pattern aluminium fins 0.12mm thick. Coil frames shall be aluminium.

Direct Drive Fans shall include AC or EC Motors. Fans shall be forward-curved centrifugal type statically and dynamically balanced. Fan motors shall be pre-wired to an external junction box.



SM Series

Technical Data Horizontal & Vertical Series



Model Number	Motor Type	Air Flow	External Static Pressure	Total Cooling Capacity	Sensible Cooling Capacity	Heating Capacity	No. of Fans	Fan Speeds	Motor Power	Motor Full Load Current
		L/s	Pa	kW	kW	kW		rpm	kW	Amps
SMA400	AC	400	250	9.0	6.5	7.3	1	21 / 19 / 18	0.4	3.3
SMA700	AC	700	250	17.0	11.9	15.0	1	22 / 20 / 19	0.4	3.6
SMA900	AC	900	250	20.9	14.8	18.7	1	23 / 22 / 21	0.8	5.8
SMA1400	AC	1400	250	33.9	23.6	30.0	1	23 / 22 / 21	0.8	5.8
SMA1900	AC	1900	250	45.1	31.6	41.9	2	22 / 21 / 19	0.55 x 2	5.6 x 2
SME400	EC	400	250	9.0	6.5	7.3	1	Variable	1.1	4.6
SME700	EC	700	250	17.0	11.9	15.0	1	Variable	1.1	4.6
SME900	EC	900	250	20.9	14.8	18.7	1	Variable	1.0	4.6
SME1400	EC	1400	250	33.9	23.6	30.0	2	Variable	1.074 x 2	4.62 x 2
SME1900	EC	1900	250	45.1	31.6	41.9	2	Variable	1.04 x 2	4.62 x 2

Air flow and coil performance are at 2.5m/s coil face velocity.
Cooling Capacities are based on 5 row 472fin/m coils with entering air conditions of 26/19°C and water temperatures of 6/12°C.

Heating Capacities are based on 1 row 394fin/m coils with entering air at 12°C and water temperatures of 80/65°C.
Motor power and current (per fan x no of fans).

Acoustic Data Horizontal & Vertical Series



Model Number	Air Flow	External Static Pressure	Sound Power Spectrum dB*								
	L/s	Pa		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
SMA400	400	250	In Duct	63	69	72	72	72	68	66	61
			Breakout	51	54	54	51	49	39	33	28
SMA700	700	250	In Duct	66	72	75	74	74	70	68	63
			Breakout	54	57	57	53	51	41	35	30
SMA900	900	250	In Duct	67	73	76	75	75	71	69	64
			Breakout	56	59	59	55	52	42	36	31
SMA1400	1400	250	In Duct	58	64	67	66	66	62	60	55
			Breakout	47	50	50	46	43	33	27	22
SMA1900	1900	250	In Duct	70	76	79	79	79	75	73	68
			Breakout	59	62	62	59	55	45	39	34
SME400	400	250	In Duct	68	74	83	74	72	69	65	62
			Breakout	57	60	66	54	48	39	31	28
SME700	700	250	In Duct	68	75	84	79	78	77	73	70
			Breakout	58	62	68	60	54	47	39	36
SME900	900	250	In Duct	68	78	81	72	73	73	67	62
			Breakout	58	65	65	53	49	43	33	28
SME1400	1400	250	In Duct	70	78	87	82	80	80	75	73
			Breakout	60	65	71	63	56	50	41	39
SME1900	1900	250	In Duct	68	87	88	74	74	72	69	63
			Breakout	58	74	72	55	50	42	35	29

Air flow and coil performance are at 2.5m/s coil face velocity.
SMA = AC motor range, SME = EC motor range.

* Sound power includes multiple fans where applicable.



Performance Data Cooling Coil Horizontal & Vertical Series

Model Number	Air Flow	Cooling Coil	Air On DB /WB	Air Off DB / WB	Total Capacity	Sensible Capacity	Water Flow	Entering / Leaving water temp	Water Pressure Drop	Air Pressure Drop
	L/S		Rows / (Fins/m)	°C				°C		
SMA400 / SME400	400	5 / 472	23 / 17	12.1 / 11.76	6.8	5.4	0.3	6 / 12	6	156
			26 / 19	12.8 / 12.43	9.0	6.5	0.4	6 / 12	9	156
			35 / 24	14.4 / 13.91	15.9	10.1	0.6	6 / 12	24	156
SMA700 / SME700	720	5 / 472	23 / 17	11.3 / 11.03	13.9	10.3	0.6	6 / 12	29	156
			26 / 19	12.4 / 12.12	17.0	11.9	0.7	6 / 12	15	156
			35 / 24	15.1 / 14.65	26.8	17.5	1.1	6 / 12	9	156
SMA900 / SME900	900	5 / 472	23 / 17	11.3 / 11.03	17.4	12.9	0.7	6 / 12	29	156
			26 / 19	12.5 / 12.22	20.9	14.8	0.8	6 / 12	12	156
			35 / 24	15.0 / 14.50	33.9	22.0	1.4	6 / 12	11	156
SMA1400 / SME1400	1400	5 / 472	23 / 17	11.6 / 11.33	25.7	19.5	1.0	6 / 12	14	158
			26 / 19	12.2 / 11.91	33.9	23.6	1.3	6 / 12	23	158
			35 / 24	14.5 / 14.06	54.8	35.0	2.2	6 / 12	21	158
SMA1900 / SME1900	1900	5 / 472	23 / 17	11.3 / 10.98	36.9	27.3	1.5	6 / 12	33	157
			26 / 19	12.4 / 12.07	45.1	31.6	1.8	6 / 12	18	157
			35 / 24	13.9 / 13.46	78.1	49.0	3.1	6 / 12	48	157

Air flow and coil performance are at 2.5m/s coil face velocity.
SMA = AC motor range.
SME = EC motor range.

Performance Data Heating Coil Horizontal & Vertical Series

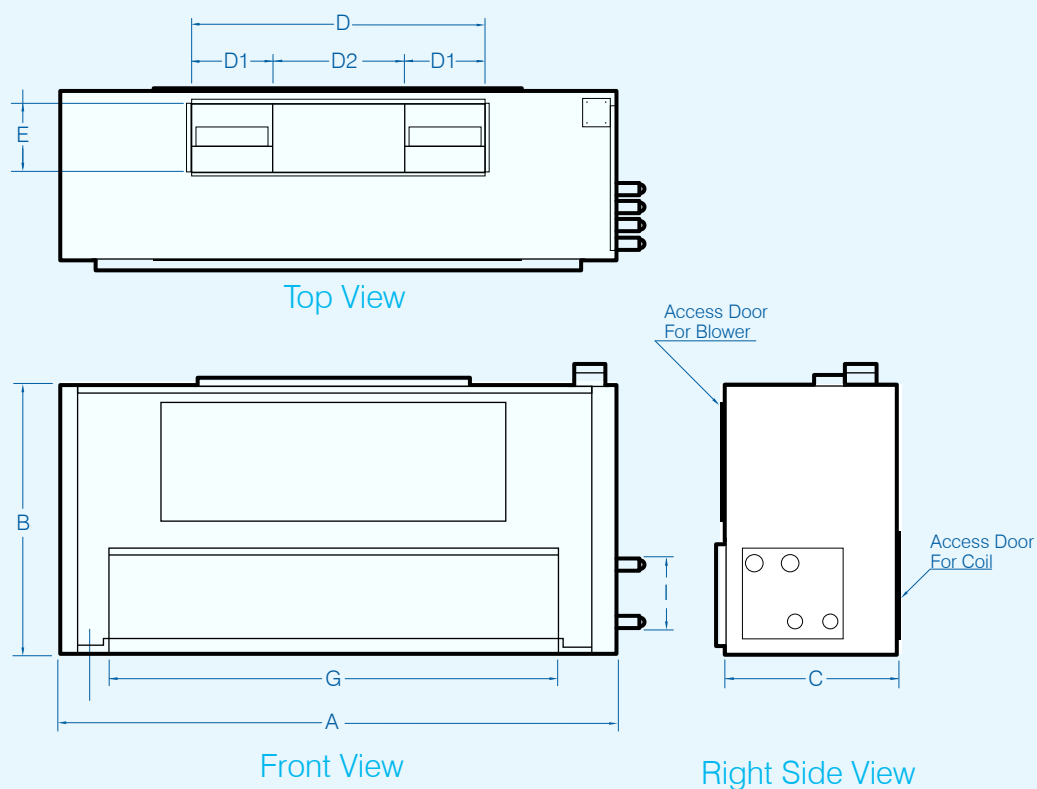


Model Number	Air Flow	Heating Coil	Air On DB	Air Off DB	Total Capacity	Water Flow	Entering / Leaving water temp	Water Pressure Drop	Air Pressure Drop
	L/s		Rows / (Fins/m)	°C			°C		
SMA400 / SME400	400	1 / 394	12	26.9	7.3	0.12	80 / 65	0.2	18
SMA700 / SME700	720	1 / 394	12	29	15	0.25	80 / 65	1.0	18
SMA900 / SME900	900	1 / 394	12	29	18.7	0.31	80 / 65	1.0	18
SMA1400 / SME1400	1400	1 / 394	12	29.5	30	0.49	80 / 65	2.1	18
SMA1900 / SME1900	1900	1 / 394	12	30.1	41.9	0.69	80 / 65	4.9	18

Air flow and coil performance are at 2.5m/s coil face velocity.
SMA = AC motor range.
SME = EC motor range.

SM Series

Dimensional Data Vertical Series

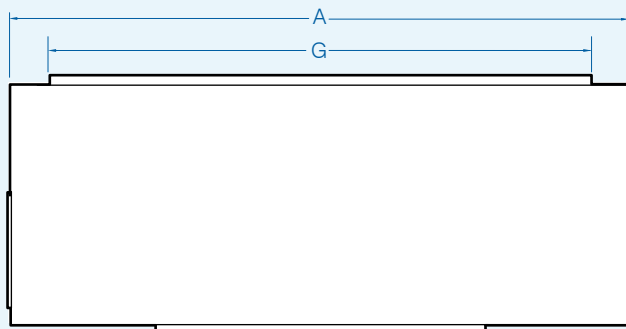


Model Number	Motor Type	Fan	Length	Height	Width	*S/A Opening				#R/A Opening		Weight
			A	B	C	D	D1	D2	E	G	I	kg
SMA040-V	AC	KDD9-7T-350W	950	1150	600	232	232	-	262	635	254	80
SMA070-V		KD29-7T-750W	1450	1150	600	697	232	233	262	1143	254	95
SMA090-V		KD29-7T-750W	1450	1150	600	697	232	233	262	1143	318	120
SMA140-V		KD29-9-1100W	1750	1150	600	948	298	352	262	1473	381	160
SMA190-V		KDD-10-10-750 W	2300	1150	600	1214	331	554	289	2007	381	170
SME040-V	EC	DDMP 7-7 STD	950	1150	600	232	232	-	209	635	254	80
SME070-V		DDMP 7-7 STD	1450	1150	600	232	232	-	209	1143	254	95
SME090-V		DDMP 9-9 STD	1450	1150	600	298	298	-	262	1143	318	120
SME140-V		DDMP 7-7 STD x 2	1750	1150	600	951	232	487	209	1473	381	160
SME190-V		DDMP 10-10 STD x 2	2300	1150	600	1216	331	554	289	2007	381	170

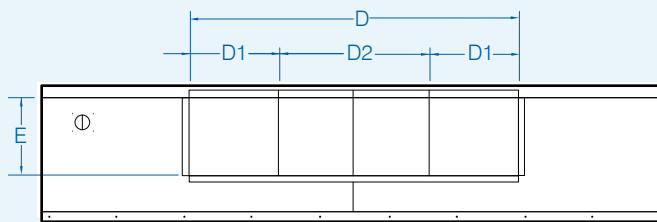
All dimensions in mm.
 * S/A Opening = Outlet.
 # R/A Opening = Inlet.

Dimensional Data

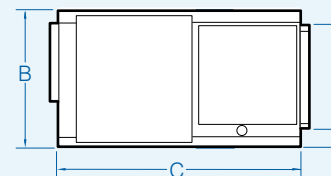
Horizontal Series



Top View



Front View



Right Side View

Model Number	Motor Type	Fan	Length	Height	Width	S/A Opening*				R/A Opening [#]		Weight
			A	B	C	D	D1	D2	E	G	I	kg
SMA040-H	AC	KDD9-7T-350W	950	1150	950	232	232	-	262	635	254	80
SMA070-H		KD29-7T-750W	1450	1150	1450	697	232	233	262	1143	254	95
SMA090-H		KD29-7T-750W	1450	1150	1450	697	232	233	262	1143	318	120
SMA140-H		KD29-9-1100W	1750	1150	1750	948	298	352	262	1473	381	160
SMA190-H		KDD-10-10-750 W	2300	1150	2300	1214	331	554	289	2007	381	170
SME040-H	EC	DDMP 7-7 STD	950	1150	600	232	232	-	209	635	254	80
SME070-H		DDMP 7-7 STD	1450	1150	600	232	232	-	209	1143	254	95
SME090-H		DDMP 9-9 STD	1450	1150	600	298	298	-	262	1143	318	120
SME140-H		DDMP 7-7 STD x2	1750	1150	600	951	232	487	209	1473	381	160
SME190-H		DDMP 10-10 STDx2	2300	1150	600	1216	331	554	289	2007	381	170

All dimensions in mm.

* S/A Opening = Outlet.

R/A Opening = Inlet.