

Fan Coils.

A consistent
temperature
inside.

Whatever
the weather
outside.

Thermoscreens Fan Coil Range.



Comprehensive Range.

The Thermoscreens Fan Coil range offers an energy efficient solution along with high outputs while keeping noise levels to a minimum.

The large range of options available allows customers to create a tailored solution for any space.

With a selection of sizes, performance capabilities and other options available, these units can be provided including all controls and valves or we can fit controls at the point of manufacture.

Maintenance & Cleaning.

The fan coil range is engineered for long-continuous performance and minimal maintenance. Components such as filters and drain trays can be easily accessed for fast, trouble-free maintenance. Filters are held in place by a hinged panel at the inlet of the fan coil which can be easily removed to change or clean the filter.

Applications.

The fan coil units may be specified across the widest range of applications from single office installations, where comfort and convenience are essential, to building zones or groups of accommodation linked by common climate requirements.

Specifications.

Casing

The casings comprising of the chassis and access panel are constructed from 1.2mm thick galvanised sheet steel creating a rigid, robust and vibration free construction. The casing incorporates a rectangular inlet and a lined discharge plenum which is where the circular spigots are positioned.

Finish

All units are supplied in a galvanised sheet steel finish.

Heating/Cooling Coils

Elements comprise Aluminium fins with copper tubes, providing high heat transfer and long life. Coils are rated for a working pressure of 16 Bar. Coils are circuited to provide a low pressure drop, of approximately 10 kPa, at normal operating outputs.

Filters

A removable G2 wire frame filter, secured at the bottom of the unit, is fitted as standard at the inlet of the fan coil. Designed to protect the coil and fans from ingress of small particles, the filter is easily removed for cleaning by undoing two screws and opening the hinged panel.

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Fans and Motors

The fans have a metal housing and metal impeller and are fitted with Electronically Commuted (EC), Direct Current (DC) motors. The fans used are some of the most energy efficient available. Manufactured as dual inlet, with a direct-driven cylindrical rotor, they utilise state of the art motor electronics and have a lower level of sound emissions.

Controls.

Fan coil units can be supplied with the latest control technology to ensure your project delivers a comfortable, quiet, energy efficient and easy to maintain climate.

Key Benefits.

- Modular, scalable and tailored offer for installations from a single unit to a complete smart building
- Wide range of manufacturer's controls supplied and supported to suit site requirements
- Options for connectivity from a simple door switch to a full BMS integration or even cloud connectivity

Controls Packages.

Digital Control Package.

For digital control options, we offer EasyIO, Trend and Distech manufactured controllers with our fan coil range. If you have another manufacturer's controls on site, let our sales team know as we can supply and fit most other leading brands. Should you already have a system integrator appointed to the project, Thermoscreens can work with them to resolve any technical gaps, approve wiring schemes and factory fit their controls to reduce your time on site and make commissioning go smoother.

Basic Control Package.

With this option a single speed controller (potentiometer) is supplied to allow airflow rates to be set at commissioning stage. The unit is delivered without valves so is best suited to changeover systems, landlord/tenant systems with heat interface units or most commonly, where valves and other components are to be fitted on site.

EasyIO Controllers.

The FW-08 forms the heart of the control loop and drives the fan coil units' functionality. The controller takes the input from either a return air sensor or wall controller and uses its internal ARM processor to calculate the heating, cooling and fan speeds needed to ensure the environment is comfortable. What really distinguishes the FW-08, is the connectivity and reporting options. The unit can communicate using its built in Wi-Fi access point or Ethernet ports to another device using MQTT, BACnet IP, HTML5, Web Sockets or REST protocols to ensure that your system is as connected to the cloud as your computer is.



The unit retains the widely used BACnet MS/TP and Modbus protocols for more traditional installations, so you always have an option for integration especially useful when mixing manufacturers.

Controls.

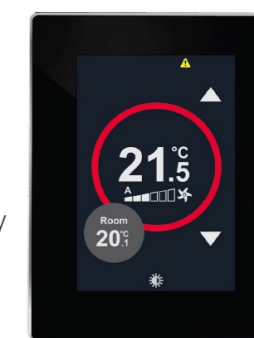
SH-SMT131.

The SH-SMT131 offers a big bright display that provides feedback of the fan coil unit's status. A user can easily turn the fan coil unit on and off and adjust temperature or fan speed to suit their preferences. Inputs can be extended to PIR, window or door statuses to ensure that rooms are conditioned in line with their occupancy, reducing running costs. Controllers can be connected by Modbus to a BMS for remote monitoring where necessary.



SH-TSX.

The SH-TSX smart thermostat has an attractive 3.5" backlit touch-screen and is purposefully built for fan coil unit control. They don't only have a slim and nice looking design, they can also be flush mounted easily for a more discrete installation. Available, in two optional models, the MOD type has built-in Modbus RTU communications and the BAC model provides BACnet MS/TP communications. The touchscreen interface allows the occupant to change fan speed, temperature whilst the digital input can be used for automatic occupancy, door, window or key card sensing reducing energy consumption.



Distech Controllers.

A high specification unit, it offers the end user a wide range of connectivity and benefits including but not limited to:

- Multiple unit control for use in open plan areas
- Built in alarms to alert users when components break down
- HTML5 dashboards and trend logging to allow maintenance teams to investigate issues
- Shading and lighting control for a complete room control solution
- BTL approval for use on larger projects
- Wi-Fi connectivity for easy commissioning and setup.

The wall controllers look smart, feature high end finishes and are designed for high end residential and hospitality type businesses.



Trend Controllers.

Trend IQEco 32.

Trend have long been considered the leading controller for the UK fan coil market for the past few years and the Thermoscreens fan coil unit is available with a factory fitted and supported Trend IQEco 32 controller. Compact in size, and familiar to HVAC controls engineers, the unit has a BACnet interface and a range of different wall controllers to suit the application.



Valves and Commissioning Sets.

A key part of all fan coil unit controls is the valve that controls the flow of chilled or heated water to the unit. Thermoscreens fan coils are available with a range of valve options to suit project budgets and ease of maintenance.

4-Port.

The most basic and widely used valve in the fan coil industry today. The 4-port valve ensures that water can continually circulate in the system and the fan coil can respond instantly with heating

or cooling as needed. A range of KVs values are available and our selection software will determine the correct size based on your needs.

BG29 Compliant PICV Valves.

To maximise efficiency, reduce time on site at installation and commissioning, and ensuring easier ongoing maintenance, we recommend that pressure independent control valves (PICV) with commissioning sets are fitted to the unit. We have worked with the top four manufacturers to ensure a robust product offer that is compliant to BSRIA's BG29/2021 guide on Pre-Commission Cleaning of Pipework System (6th Edition).

Each valve set includes:

- 0-10V actuator compatible with over 80% of the controls on the market today
- Pressure test plug and drain so coil pressure drops can be measured once installed to identify performance issues
- Flushing bypasses to allow service and maintenance staff to clear the unit of any debris within the system, and safely isolate it should it require future servicing
- Metering station/orifice plate to facilitate the measuring of flow rates at the FCU to help quantify a product's performance
- Euroconus connections as standard to maximise the options when connection of the system pipework to the unit.

Additional options available:

- End of line (branch) valve sets – special PICV commissioning sets that are designed to be installed at the end of a line to ensure the water can circulate continually within the system, maximising response times
- Strainers – Thermoscreens always recommends fitting strainers to the central trunk in the hydronic system as it will reduce the time spent on maintaining them. In some projects, especially refurbishment and fit out, this isn't possible, so we can add them directly to the fan coil unit
- Raise lower actuators, with some controllers, a 0-10V actuator is unsuitable. In these cases we can supply a raise lower actuator to ensure it will be fully compatible with whichever controls you wish to use

Sundries.

Despite our comprehensive controls offer, we understand that some customers will always have a preference to supply their own controls on a 'free issue' basis. In these cases, there can be a gap between what our product requires and what the controller can provide, so we can supply additional items to solve any integration issues.

Fan Monitoring Board.

By fitting a fan monitoring board, each fan within the unit is continually monitored against a target speed. Once a fan is found to drop below this level, the fan monitoring board will immediately alert the controller that in turn can notify the BMS or building's occupants who can arrange a call to the facilities maintenance company.

Control Relays.

The units are available with different control relays to help 'close the gap' between free issued controllers and the workings of the Thermoscreens fan coil. Typically used to enable the fans, reducing so called parasitic power consumption, when used on larger projects the energy savings can be significant and more than justify the initial capital cost of fitting them.

Transformers.

Some controllers require 24VAC supplies to work and this is usually sourced from a transformer within the unit. As an optional accessory, the Thermoscreens fan coil units are available with two different sized 24V transformers to suit a wide range of common controllers and in some cases additional actuators like shading or lighting where necessary.



Performance Data.

Performance Data.

Noise Rating 38			Cooling Performance								Heating Performance			
Unit Size	Air Volume l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		81°C - 72°C 21°C EAT	80°C - 60°C 21°C EAT	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Sensible	Sensible	Sensible
TMS2701	170	0.22	2.31	3.01	1.93	2.22	1.55	1.55	2.94	4.99	3.93	3.72	1.65	3.93
TMS2702	206	0.32	2.85	3.71	2.37	2.73	1.89	1.89	3.65	6.19	4.77	4.52	2.01	4.77
TMS2703	312	0.30	4.29	5.58	3.59	4.13	2.90	2.90	5.57	9.44	7.24	6.86	3.05	7.24
TMS2704	376	0.30	4.70	6.11	3.84	4.42	2.98	2.98	6.09	10.34	8.73	8.27	3.67	8.73
TMS2705	440	0.27	5.69	7.40	4.72	5.43	3.76	3.76	7.24	12.27	10.20	9.66	4.29	10.20
TMS2706	489	0.23	6.22	8.08	5.13	5.89	4.04	4.04	7.99	13.55	11.33	10.73	4.77	11.33
TMS2707	544	0.28	7.16	9.30	5.94	6.83	4.72	4.72	9.18	15.57	12.60	11.94	5.30	12.60
TMS2708	584	0.23	7.43	9.66	6.15	7.08	4.88	4.88	9.45	16.02	13.53	12.81	5.70	13.53
TMS2709	642	0.24	8.58	11.15	7.14	8.21	5.71	5.71	10.94	18.56	14.87	14.09	6.26	14.87
TMS27010	752	0.26	9.64	12.53	7.99	9.19	6.35	6.35	12.29	20.84	17.44	16.52	7.34	17.44

Noise Rating 30			Cooling Performance								Heating Performance			
Unit Size	Air Volume l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		81°C - 72°C 21°C EAT	80°C - 60°C 21°C EAT	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Sensible	Sensible	Sensible
TMS2701	118	0.15	1.73	2.24	1.45	1.66	1.17	1.17	2.21	3.74	2.74	2.59	1.15	2.74
TMS2702	135	0.18	2.01	2.61	1.68	1.94	1.36	1.36	2.58	4.38	3.13	2.96	1.32	3.13
TMS2703	206	0.15	2.93	3.81	2.48	2.86	2.04	2.04	3.96	6.72	4.77	4.52	2.01	4.77
TMS2704	275	0.18	3.61	4.69	2.97	3.41	2.33	2.33	4.66	7.90	6.37	6.04	2.68	6.37
TMS2705	266	0.14	3.59	4.67	3.02	3.47	2.45	2.45	4.89	8.29	6.16	5.84	2.59	6.16
TMS2706	322	0.16	4.24	5.51	3.54	4.07	2.84	2.84	5.78	9.81	7.47	7.08	3.15	7.47
TMS2707	346	0.14	4.76	6.18	3.99	4.59	3.23	3.23	6.40	10.85	8.02	7.60	3.38	8.02
TMS2708	391	0.15	5.48	7.12	4.58	5.26	3.67	3.67	7.03	11.93	9.07	8.59	3.82	9.07
TMS2709	441	0.15	6.33	8.23	5.30	6.09	4.27	4.27	8.08	13.70	10.23	9.69	4.31	10.23
TMS27010	482	0.15	6.80	8.84	5.69	6.54	4.58	4.58	8.65	14.67	11.17	10.58	4.70	11.17

Noise Rating 35			Cooling Performance								Heating Performance			
Unit Size	Air Volume l/s	SFP w/l/s	6°C - 12°C 23°C EAT		8°C - 14°C 23°C EAT		10°C - 16°C 23°C EAT		ECODESIGN 7°C - 12°C 27°C EAT		81°C - 72°C 21°C EAT	80°C - 60°C 21°C EAT	60°C - 40°C 21°C EAT	ECODESIGN 70°C - 60°C 20°C EAT
			Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Total	Sensible	Sensible	Sensible	Sensible
TMS2701	153	0.18	2.05	2.67	1.75	2.01	1.41	1.41	2.67	4.53	3.54	3.36	1.49	3.54
TMS2702	175	0.25	2.35	3.05	2.06	2.37	1.65	1.65	3.16	5.37	4.05	3.84	1.71	4.05
TMS2703	281	0.24	3.77	4.90	3.24	3.73	2.62	2.62	5.00	8.49	6.51	6.17	2.74	6.51
TMS2704	332	0.24	4.24	5.52	3.48	4.00	2.71	2.71	5.50	9.32	7.69	7.28	3.24	7.69
TMS2705	388	0.24	5.17	6.72	4.29	4.93	3.41	3.41	6.57	11.14	9.00	8.53	3.79	9.00
TMS2706	433	0.21	5.65	7.34	4.66	5.36	3.68	3.68	7.27	12.33	10.04	9.52	4.23	10.04
TMS2707	477	0.21	6.40	8.32	5.32	6.12	4.24	4.24	8.24	13.97	11.06	10.48	4.66	11.06
TMS2708	515	0.18	6.82	8.87	5.67	6.52	4.51	4.51	8.71	14.77	11.93	11.30	5.02	11.93
TMS2709	580	0.19	7.79	10.12	6.50	7.47	5.20	5.20	9.94	16.85	13.45	12.74	5.66	13.45
TMS27010	652	0.20	8.70	11.31	7.24	8.32	5.77	5.77	11.08	18.79	15.12	14.33	6.37	15.12

Fan. Electrical Data.

The table below provides electrical data for the TMS range of fan coils.

Unit Size	Max Running Current Amps	Max Running Power Watts	Starting Current Amps
TMS2701	0.64	83	0.64
TMS2702	0.64	83	0.64
TMS2703	1.2	170	1.2
TMS2704	1.22	170	1.22
TMS2705	1.74	254	1.74
TMS2706	1.74	254	1.74
TMS2707	1.74	254	1.74
TMS2708	2.26	338	2.24
TMS2709	2.26	338	2.24
TMS27010	2.72	420	2.72

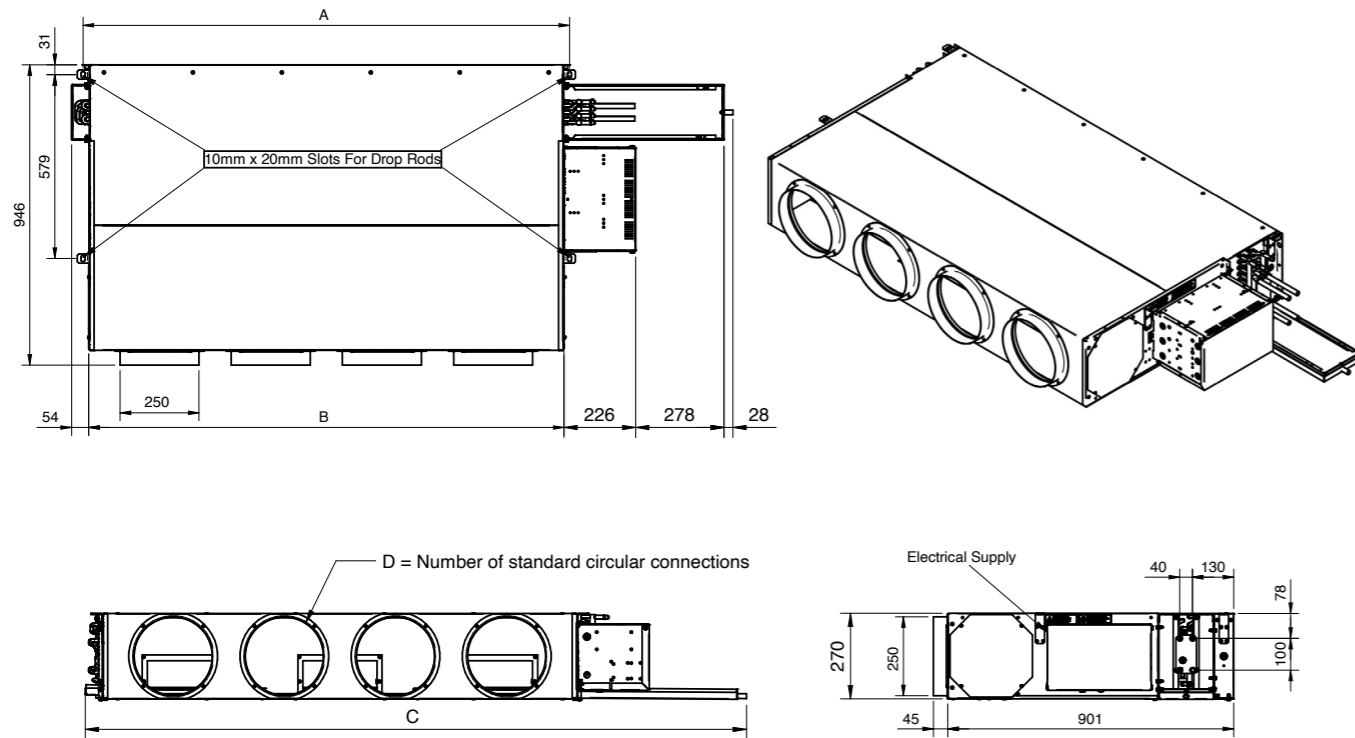
Noise rating guide based on standard office environment and units installed above a suspended ceiling with a Dncw/Dnfw of 35 dB with up to 30 Pa external static resistance.

- EAT - Entering air temperature.
- Specific fan powers are anticipated installed values and are dependant on final external static resistance and other factors.
- Heating outputs are based on a maximum supply air temperature of 40°C.
- Noise rating levels are for guidance only and we recommend a full acoustic analysis is carried out by the clients consultants.

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- Heating outputs are based on a maximum supply air temperature of 40°C.
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Dimensional Data.



Unit Size	A	B	C	Spigot Diameter	Number of Spigots
TMS2701	632	596	1132	250mm	1
TMS2702	932	896	1432	250mm	2
TMS2703	932	896	1432	250mm	2
TMS2704	1232	1196	1732	250mm	3
TMS2705	1232	1196	1732	250mm	3
TMS2706	1532	1496	2032	250mm	4
TMS2707	1832	1796	2332	250mm	4
TMS2708	1832	1796	2332	250mm	4
TMS2709	2132	2096	2632	250mm	5
TMS27010	2132	2096	2632	250mm	5



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