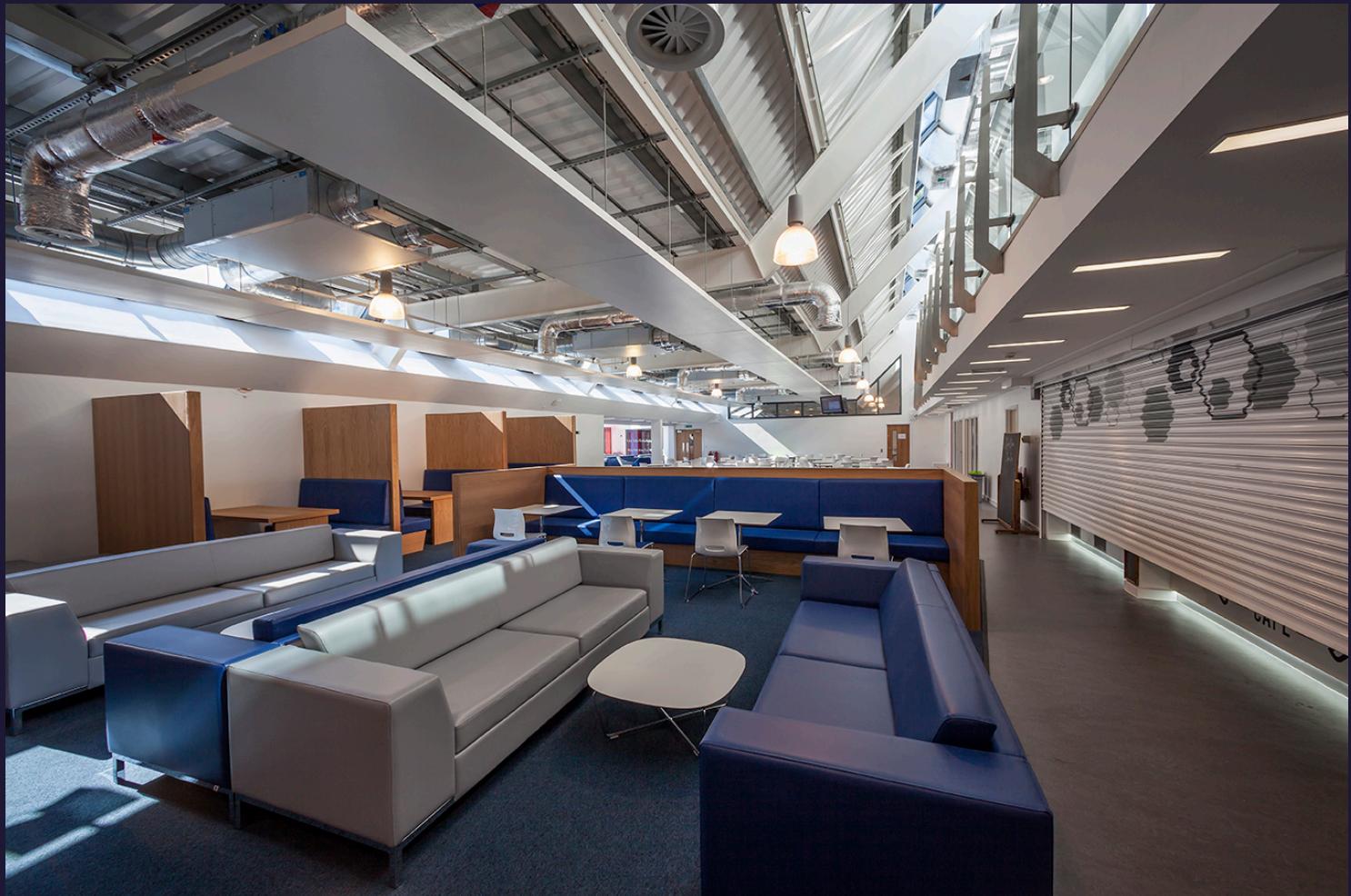


Versatile

Heating · Cooling · Ventilation

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Electric Radiant Panels



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Electric Radiant Panels

Electric Radiant panels

We are uniquely well positioned to help you meet the key challenges that are presented by today's modern architecture and building requirements.

The breadth of our range, and our ability to design and customise manufacturing are perfect complements to the design flexibility that is enabled by electrically powered panels.

Our long experience in the electric radiant panel market means we are confident in the quality and longevity of our products which enjoy a 10 year guarantee.

Right: Solray free hanging ("FH") strips at Blenheim School, Surrey



Above: Perimeter Panels at Craigavon hospital following the shape of the room.



Above: Bespoke perforated panels with lighting integration created for Forrest Educational Centre



Above: St. Mary's Church in Chalgrove with bespoke colours and mounts with designs in conjunction with CES Lighting & Electrical Engineers

Advantages of Electric Radiant Panels

Our Electric Radiant panels work in exactly the same way as our LTHW radiant heating panels, emitting gentle long wave infrared heat directly to the objects and people around them.

- ✓ **All of our panels are available in electrified versions.** With the widest range of panels on the market there is no situation that we can't cater for.
- ✓ **Easier and cheaper to install.** Our panels use a single phase 240V electrical supply, which is usually readily available. They don't need any new plant, boiler room equipment or long pipe runs to areas where the radiant heating panels are wanted. This makes them ideal for refurbishment projects, or for sites that don't have an existing boiler or gas supply (churches and other historic buildings for example).
- ✓ **Easy to control:** Controlling electric radiant heating panels can be as simple as an on/off switch. Or they can be controlled with a multi zone wireless thermostat or PIR sensors linked to timer switches. The possibilities are endless with electric radiant heating panels meaning that there's a solution for every situation. There are no valves to commission or flow rates to worry about either.
- ✓ **Fast response times:** Electric radiant panels start to heat up instantly, and reach their designed temperature within minutes thanks to the heating elements attached directly to the radiant panel.
- ✓ **Energy efficient:** Solray electric radiant panels are silent and don't glow, therefore all of the electrical energy put into them is emitted as heat. Combine this with the basic principles of radiant heating and you have one of the most efficient heating emitters available today.
- ✓ **Outputs:** Solray electric radiant panels offer customisable output levels to ensure occupant comfort and to satisfy radiant a-symmetry requirements. They can also offer much higher outputs than LTHW panels, ideal for projects that require a large heat output or have limited space available for heat emitters.
- ✓ **Can be combined with LTHW:** Solray panels can offer combined LTHW and electric heating capability. This could be useful where air or ground source heat pumps are the LTHW heat source. Electric elements can be used to boost the output for the coldest days of the year without needing more heating surfaces or equipment.

Customised Panels

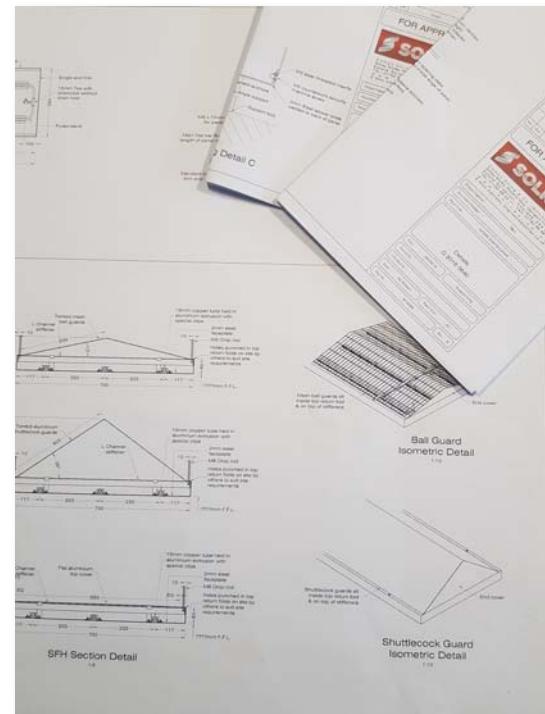
Custom built panels to suit your exact needs

Panel sizes ordinarily tend to be modular: nominal 600mm wide and lengths that are multiples of 600mm up to 3 metres. These modular lengths can be joined up to meet requirements of larger spaces. In addition to standard modular panels, we can design and manufacture bespoke versions to meet the specific requirements of your project – for example, where panels need to act as a feature or blend in seamlessly to the surroundings.

Size, specification, shape and finish can all be almost infinitely tailored to your requirements.

Different outputs can be supported within the same panel sizes which makes Solray radiant heating very flexible. Our heat mats are custom designed to deliver the required heating outputs for each situation.

Integration of other services with radiant panels is also possible which is beneficial where ceiling space is crowded. Lighting, security cameras, and fire equipment for example can all be integrated for additional convenience and flexibility.



Any BS or RAL colour



Shaped panels



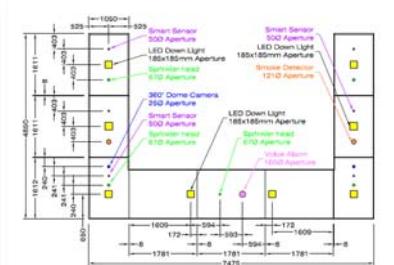
Any length and width



Output Flexibility



Service integration

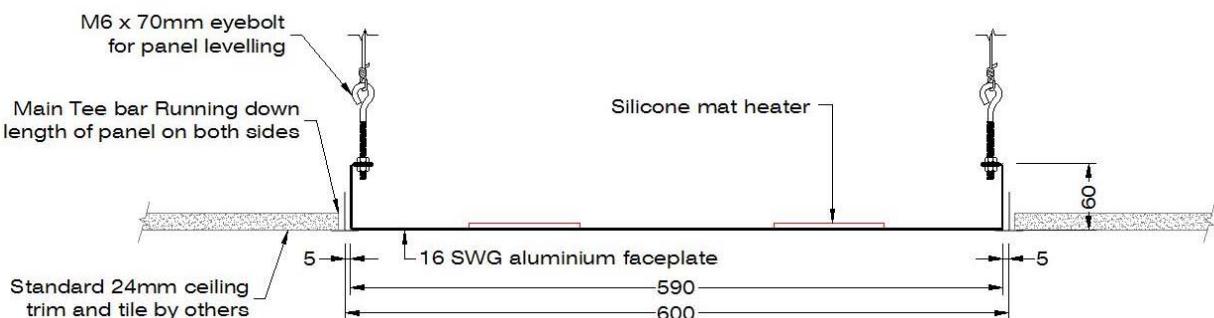


Suspended Ceiling Grids

Electric Trident Panels

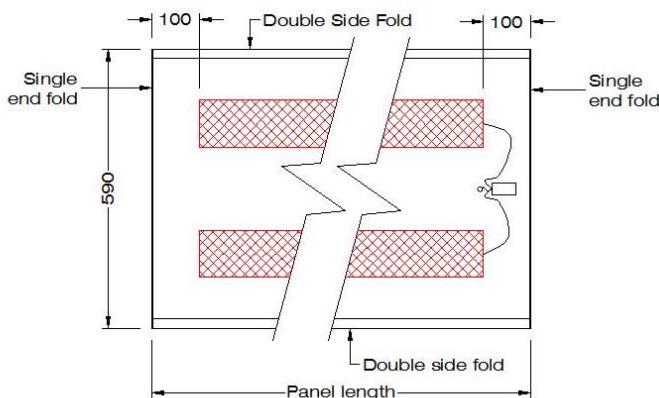
Application: Suspended Ceilings

Suitable for integration into a 600mm x 600mm ceiling, Solray Electric Trident Panels blend into the ceiling to give an almost invisible heating solution. They are aesthetically identical to our LTHW panels whilst using electric heating mats instead of copper pipes.



Trident Modular Panels

Solray Trident Modular panels are available in nominal lengths from 600mm up to 3000mm (in 600mm increments)



Suspended Ceiling Grids

Electric Trident Linear Panels

Solray Trident Linear panels are Trident panels that are longer than 3000mm. They are made up of separate 3m (or smaller) panels that are pushed together on site using discreet expansion strips to cover the join.



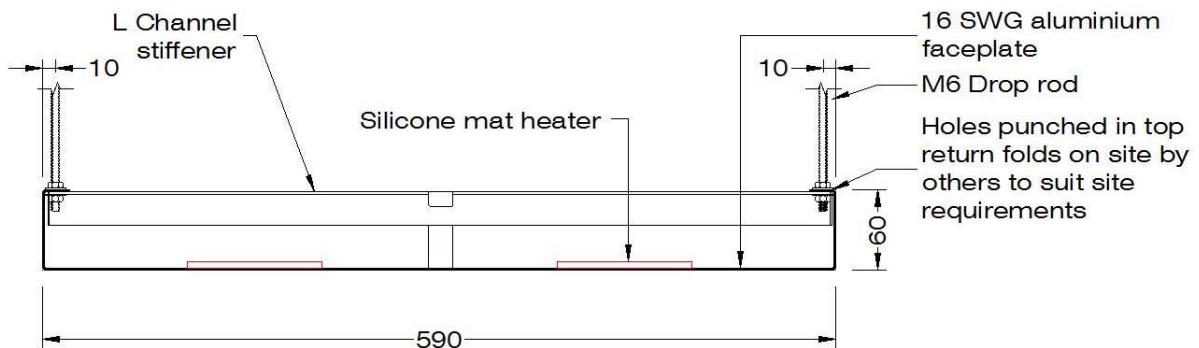
Electric Trident Technical Specification

- 1.6mm smooth aluminium faceplates, free of any ridges and lines
- Factory finished in a white texture to RAL 9010 (other colours can be provided)
- A discreet expansion strip covers the joints between panels to allow and conceal expansion
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- Thermal safety cut out included
- Pre-wired with a Click Flow20 Amp push-in connector.
- Insulated with 50mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- Panel mass: 600mm wide ~5 kg/m
- The outputs of Solray Panels have been tested to BS EN 14037
- Outputs: customised to specified requirement
- 10 year guarantee

Electric Free Hanging Panels

Application: Open ceiling environments

Suitable for workshops, sports halls or any open ceiling environment, Solray Free Hanging ("FH") panels are highly flexible in terms of shape and size. They are aesthetically identical to our LTHW panels but use electric heating mats instead of copper pipes.



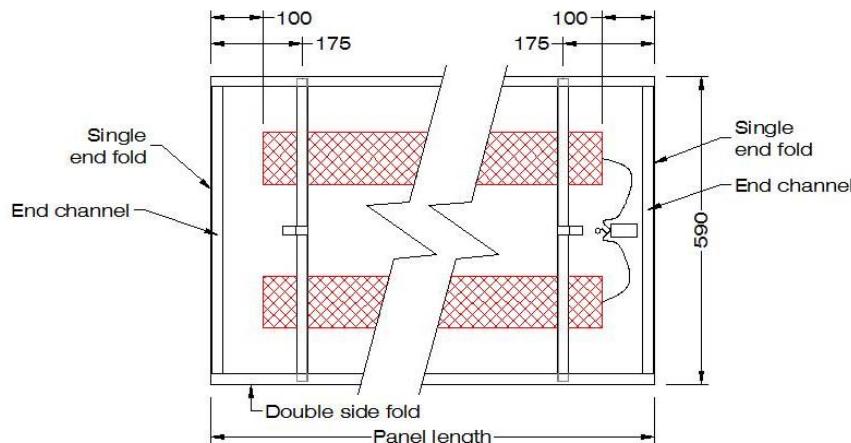
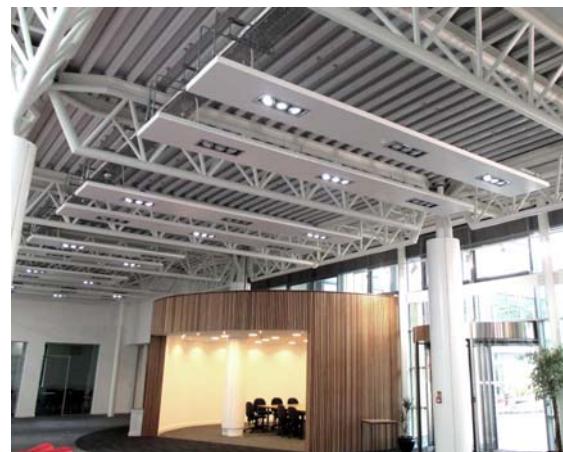
Aesthetically pleasing and available with ball or shuttlecock guards for sports environments, the Solray FH Panel is an ideal solution for large volume spaces where conventional warm air convection heating systems would be ineffective or uneconomic.



Electric Free Hanging Panels

Available in our standard 1.6mm aluminium, 2mm perforated aluminium (for improved acoustic properties) or 2mm steel for areas where an anti-vandal panel is required. Solray FH panels are extremely robust and ideally suited to sports halls where ball games are likely to be played or where other impacts are possible.

FH Panels can be customised for lengths, widths and outputs and can therefore be adapted to suit any situation. All Solray panels can be manufactured to accept integrated lighting and other services.



Electric Free Hanging Technical Specification

- 1.6mm smooth aluminium faceplates, free of any ridges and lines
- Factory finished in a white texture to RAL 9010 (other colours can be provided)
- A discreet expansion strip covers the joints between panels to allow and conceal expansion
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- Thermal safety cut out included
- Pre-wired with a Click Flow20 Amp push-in connector.
- Insulated with 50mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- Panel mass: 600mm wide ~5 kg/m
- The outputs of Solray Panels have been tested to BS EN 14037
- Outputs: customised to specified requirement
- 10 year guarantee

Application: Anti vandal/ligature panels for secure environments

Solray Steel Panels are ideal for situations where there is a risk of vandalism or intentional self-harm. These panels are therefore designed for mental health units, prisons and other custodial or high security situations.

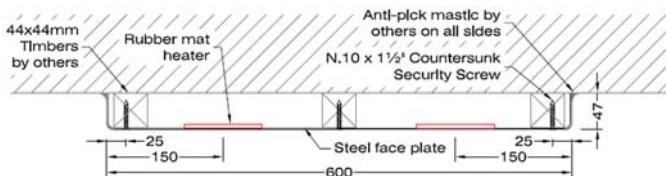
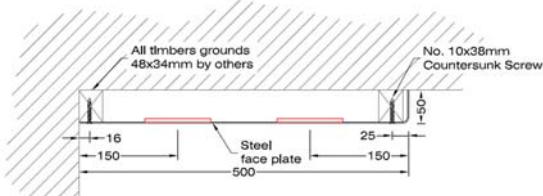
Specially designed to suit each customer's requirements, Solray Steel Panels are robustly constructed from 2mm mild steel making them virtually indestructible. For maximum security they can be supplied with special tamperproof security fixings.

The panels can be mounted on ceilings, walls or as a coving panel. They are often best positioned running wall to wall along the perimeter of the room.



Left: wall mounted NOMS panel before being repeatedly beaten with a four foot long scaffolding pole.

Right: Same panel after beating...



Solray Standard Steel Panel Technical Specification

- 2mm smooth steel faceplates, free of any ridges and lines
- Factory finished in a white texture to RAL 9010 (other colours can be provided)
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- Thermal safety cut out included
- Pre-wired with a Click Flow20 Amp Push-in Connector.
- Insulated with 50mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- Panel mass is approximately 31kg/m²
- The outputs of Solray Panels have been tested to BS EN 14037
- 10 year guarantee
- Outputs: customised to specified requirement

Safer Cell Environment Solray Panels

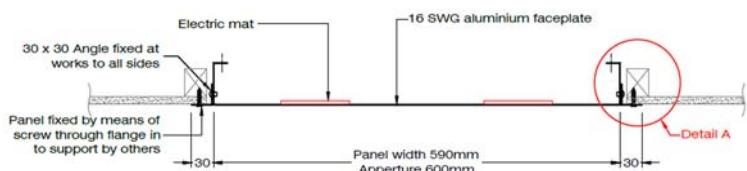
Solray high security steel panels are one of a select few that are approved by the Ministry of Justice for NOMS 'safer cell' environments. These 'NOMS' versions have increased reinforcement in critical areas so as to survive sustained and deliberate attack.

Plasterboard Strips (PB)

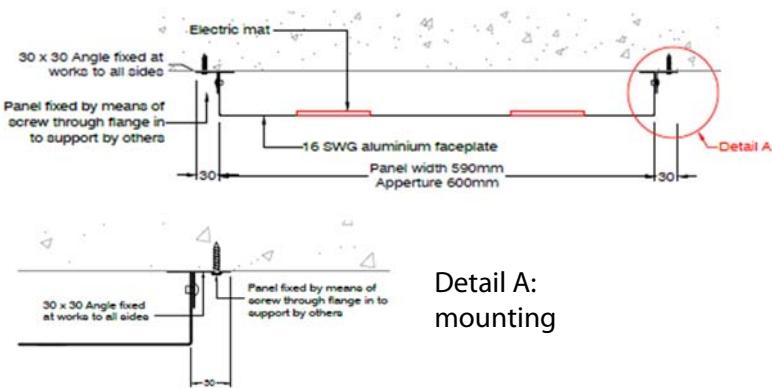
Application: Surface mounted or flush fitting for ceilings or walls

Solray PB Strips are a simple supply-only option for plasterboard ceilings and walls. Flush Mounted and Surface Mounted PB Strips are both available with or without cold cover plates to allow access to the connections and interconnections from below.

Flush Mounted



Surface Mounted



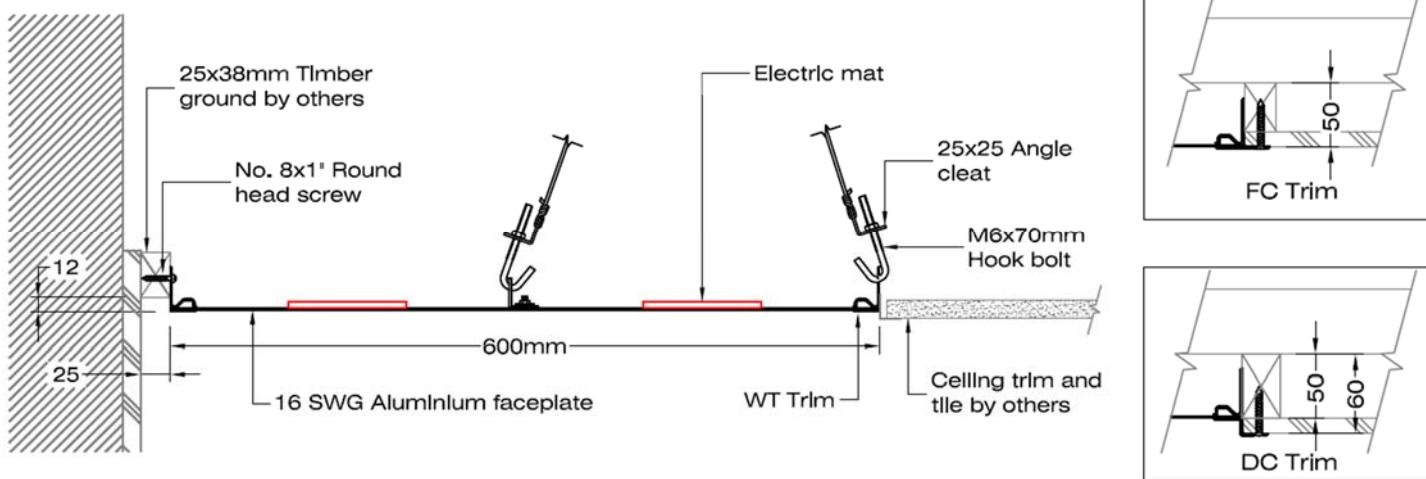
Solray PB Strip Technical Specification

- 1.6mm smooth aluminium faceplates, free of any ridges and lines
- Factory finished in a white texture to RAL 9010 (other colours can be provided)
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- Thermal safety cut out included
- Outputs: customised to specified requirement
- Pre-wired with a Click Flow20 Amp Push-in Connector
- A discreet expansion strip covers the joints between panels to allow and conceal expansion
- Insulated with 50mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- The outputs of Solray Panels have been tested to BS EN 14037
- 10 year guarantee

Demountable Perimeter (DM)

Application: Suspended Ceilings

DM Perimeter Panel systems can be designed to enable even the most complicated room to be sized simply and effectively to match the heat loss.



With the panel installed on the perimeter, the middle of the ceiling is free for other services such as lighting which is a substantial advantage where ceiling space is at a premium. Services (eg lighting, smoke detectors, sprinklers etc) can also be integrated into the panels where required.

Solray DM Technical Specification

- 1.6mm smooth aluminium faceplates, free of any ridges and lines
- Available widths: 150mm— 1350mm
- Available length: unlimited
- Factory finished in a white texture to RAL 9010
- Panels can be cut around columns and other obstacles to give a continuous straight ceiling edge
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- Thermal safety cut out included
- Pre-wired with a Click Flow20 Amp Push-in Connector.
- A discreet expansion strip covers the joints between faceplates to allow and conceal expansion
- Insulated with 50mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- The outputs of Solray Panels have been tested to BS EN 14037
- 10 year guarantee
- Outputs: customised to specified requirement

Non-Demountable (ND)

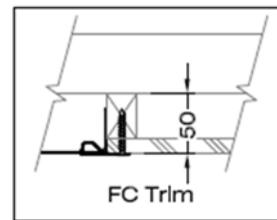
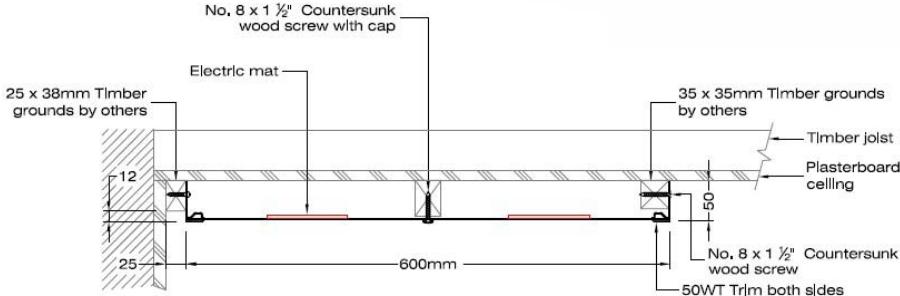
Application: Solid soffit or plasterboard ceilings and walls

ND panels are designed to enable even the most complicated room to be sized simply and effectively to match the heat loss. ND panels can either be installed around the perimeter of the room or as strips in the centre of the ceiling. Services can also be integrated into the panels where required.



ND Panels are made up of separate 3000mm (or smaller) plates which are joined together almost invisibly. Available in any width up to 1350mm, ND panels are completely bespoke to your room and can even cope with pillars and other obstructions.

ND Panels are installed by Solray trained installers and can be supplied with or without cold cover plates to allow access to the connections.



When installed around the perimeter, the panels provide balanced heat distribution around the areas that experience most of the heat loss. Furthermore, the middle of the ceiling is left clear for other services such as lighting.

ND Technical Specification

- 1.6mm smooth aluminium faceplates, free of any ridges and lines
- Factory finished in a white texture to RAL 9010
- A discreet expansion strip covers the joints between panels to allow and conceal expansion
- Available widths: 150mm— 1350mm
- Available length: unlimited
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Thermal safety cut out included
- Outputs: customised to specified requirement
- Pre-wired with a Click Flow20 Amp Push-in Connector.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- Insulated with 50mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- The outputs of Solray Panels have been tested to BS EN 14037
- 10 year guarantee

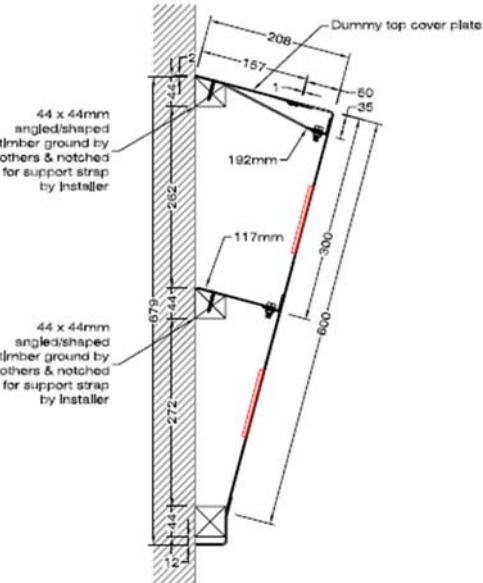
Angled Wall Mount

Application: Sports Halls

The Solray Angled Wall Panel is an alternative to Free Hanging panels for use in Sports Hall environments.

The Solray Angled Wall Panel is constructed from 2mm mild steel making it virtually indestructible and ideal for sports environments.

The panels are mounted on the perimeter wall at high level and angled towards the centre of the room which means that the entire space gets an even coverage of gentle radiant warmth.



The panels come with a dummy top section to enclose the rear of the panel where distribution cabling can also be concealed.

Removable cold cover plates are included between each section of panel allowing access to all of the connections and interconnections.

Solray Angled Wall Panel Technical Specification

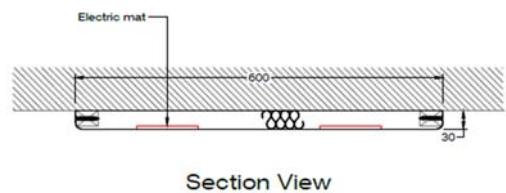
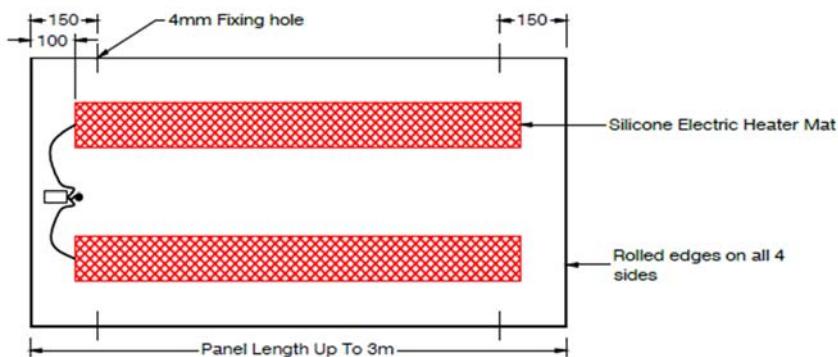
- 2mm smooth steel faceplates, free of any ridges and lines
- Factory finished in a white texture to RAL 9010 (other colours can be provided)
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- A discreet expansion strip covers the joints between panels to allow and conceal expansion
- Pre-wired with a Click Flow20 Amp Push-in Connector.
- Insulated with 50mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- Panel mass is approximately 31kg/m²
- Outputs: customised to specified requirement
- The outputs of Solray Panels have been tested to BS EN 14037
- 10 year guarantee

Application: Solid or plasterboard ceilings/walls

Available in lengths up to 3m and at only 30mm deep, the Streamline panel is an unobtrusive yet effective panel for mounting onto solid ceilings or walls. Simply fixed to timber grounds with countersunk screws through the side of the panel, installation is a simple and speedy process.



The ease of installation means that the Streamline is ideal for retrofitting into existing buildings without the need for preparing an aperture.



Section View

Solray Streamline Technical Specification

- 1.6mm smooth aluminium faceplates, free of any ridges and lines
- 600mm wide with available lengths of 600, 1200, 1800, 2400 and 3000mm
- Factory finished in a white texture to RAL 9010 (other colours can be provided)
- 1.1mm thick moisture resistant silicone rubber electric heater mats self adhered to reverse of panel.
- Max temperature 180°C (requires high temp paint) – usually 60-80°C
- Thermal safety cut out included
- Pre-wired with a Click Flow20 Amp Push-in Connector.
- Insulated with 25mm foil backed unencapsulated glass fibre with a thermal conductivity at 70°C of 0.045 W/m K
- The outputs of Solray Panels have been tested to BS EN 14037
- Outputs: customised to specified requirement
- 10 year guarantee

Radiant Cassette Tiles

Application: Ceiling grid or surface mounted

Solray Electric CT Tiles have an electric resistance mat behind a steel faceplate, finished in a white satin coat, enclosed by a top cover.

CT tiles are either 600 x 600 or 600 x 1200 and therefore designed to fit into ceiling grids in place of normal tiles. The Tiles have folded edges and fixing points to be independently supported within an exposed grid suspended ceiling, or mounted underneath a fixed soffit using the support bracket provided.



- Cost effective and efficient comfort
- Maintenance free and easy to clean
- White textured paint finish
- Built in thermal cut out
- IP54 Rated
- Fully insulated to minimise heat loss through the rear of the panel
- 22 gauge galvanised steel radiating surface
- 24 gauge galvanised steel backing plate
- Fits into a standard T-bar suspended ceiling
- Supplied with ceiling mounting bracket

Model	Dimensions (mm)	Weight (KG)	Voltage (V)	Power Output (W)*	Current (A)
3CT	595 x 595 x 27	9	230 ~	300	1.3
6CT	1195 x 595 x 27	13	230 ~	600	2.6

* As all of the electrical input is converted to heat, the electrical input power is the same as the heat output

Control Kits

Controlling electric radiant panels

The Solray Zone Control Kit allows for accurate control of a group of radiant panels where there is no BMS. Each kit includes one each of the following items.

V22 Wireless Programmable Room Thermostat

- LCD display
- Easy setup, choice of 9 factory preset programs
- Capable of controlling up to 4 receiver/switching units (V23)
- 7 day programming with up to 6 time/temperature settings per day
- Manual override with timer function
- Auto, manual, holiday and off (frost) modes
- Display powered by 2 AAA batteries



V23 Wireless Receiver/Switching Unit

- Rated to 16 Amp at 230V
- Can switch up to 3600W
- LED status indicators
- Option to connect an external sensor



Potential control wiring schematics

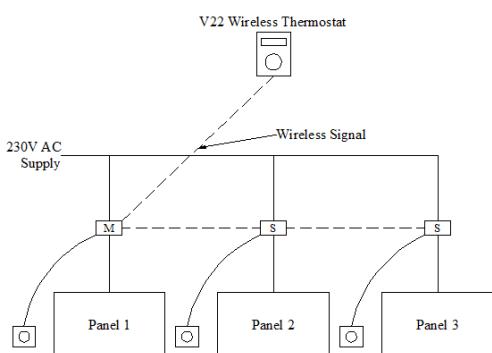


Fig. 1

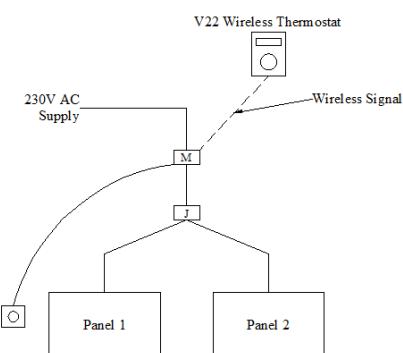


Fig. 2

[M]	Master V23 Receiver/Switching Unit
[S]	Slave V23 Receiver/Switching Unit
[J]	Junction Box (by others)
[O]	Optional Black Bulb Sensor

Control Kits

Additional control items available

The Control Kits can be augmented with additional equipment, including:

Additional V23 Wireless Receiver/Switching Units

- The V22 Thermostat can control up to 4 V23 units, one as a master (included in the kit) and up to 3 extra as slave units
- Applications can include large open spaces where there may be multiple electric radiant panels on the same thermostat program.



Black Bulb Temperature Sensor

- Specifically designed to measure the temperature of radiant heating systems
- TITAN Products Black Bulb Temperature Sensor with 10K3A1 element type for use with V series thermostats and receivers (NTC 10kΩ (25°C) sensing element)
- Applications can include large open spaces where using the V22 Thermostats internal air temperature sensor may give inaccurate results.
- The black bulb sensor can be connected to either the V22 Thermostat or the V23 Receiver (if connection to the V23 is required and there are multiple V23 units then each unit must have a sensor).



V24 Central Touch Panel Control Unit

- The V24 Unit can control up to 24 zones
- Simple installation and setup
- Colour touch screen panel
- Each zone must have a V23 Receiver with the option of a V22 Thermostat for local temperature control.

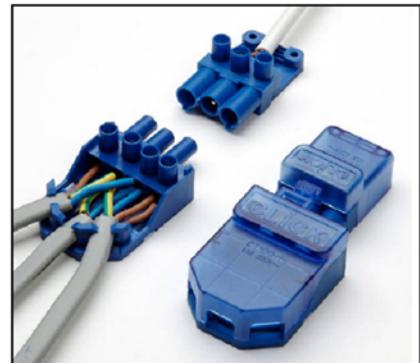


Wiring

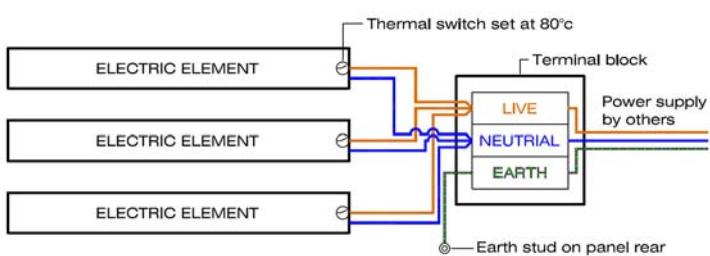
Panel wiring connections

Terminal Blocks

- Each panel is pre-wired from the factory with a Click Flow20 Amp push-in connector
- 250V~ 20A Plug-In Connector
- Large terminals with easy access
- Easy lock and release mechanism
- Male: Max 1.5mm 3 core cable
- Female: Max 3 x 2.5mm twin and earth (with additional loop terminal)
- Panels up to 900 wide come with 1 connector, panels over 900 wide will come with 2 connectors.



Wiring diagram for panels with three heating elements

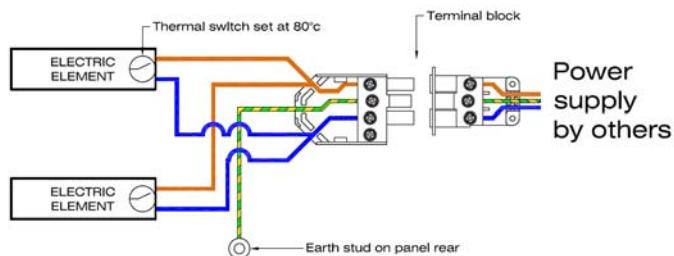


Panels 650-900mm wide have three heating elements connected to a single terminal block. Panels wider than 900mm have four heating mats with two terminal blocks, each one catering for a pair of mats.

Panels are wired and PAT tested at the factory.

Power supply wiring to be done by others.

Wiring diagram for panels with two heating elements

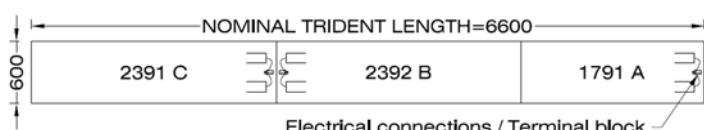


Panels 450-600 mm wide have a pair of heating elements connected to a single terminal block.

Panels are wired and PAT tested at the factory.

Power supply wiring to be done by others.

Wiring for multiple panel runs



Long runs comprising multiple panels joined together require each panel to be connected in parallel to the supply using the pre-wired terminal blocks.

The diagram (left) shows a 6.6m panel run comprising three panels, each with its own terminal block..

Panel outputs

Watts/M² Outputs and Current Draw for 240v Single Phase

Face Plate Temperature °C /°C	Ambient Temperature (°C)									
	16	17	18	19	20	21	22	23	24	25
40	200W (0.87A)	190W (0.83A)	180W (0.78A)	175W (0.76A)	165W (0.72A)	155W (0.67A)	150W (0.65A)	140W (0.61A)	130W (0.56A)	125W (0.54A)
45	250W (1.09A)	240W (1.05A)	230W (1.00A)	225W (0.98A)	215W (0.94A)	205W (0.89A)	195W (0.85A)	190W (0.83A)	180W (0.78A)	170W (0.74A)
50	300W (1.31A)	290W (1.26A)	285W (1.24A)	275W (1.20A)	265W (1.15A)	255W (1.11A)	250W (1.09A)	240W (1.05A)	230W (1.00A)	220W (0.96A)
55	355W (1.55A)	345W (1.50A)	340W (1.48A)	330W (1.44A)	320W (1.4A)	310W (1.35A)	300W (1.31A)	295W (1.29A)	285W (1.24A)	275W (1.20A)
60	410W (1.79A)	405W (1.77A)	395W (1.72A)	385W (1.68A)	375W (1.64A)	365W (1.59A)	355W (1.55A)	350W (1.53A)	340W (1.48A)	330W (1.44A)
65	470W (2.05A)	460W (2.01A)	455W (1.99A)	445W (1.94A)	435W (1.90A)	425W (1.85A)	415W (1.81A)	405W (1.77A)	395W (1.72A)	385W (1.68A)
70	530W (2.31A)	525W (2.29A)	515W (2.25A)	505W (2.20A)	495W (2.16A)	485W (2.12A)	475W (2.07A)	465W (2.03A)	455W (1.99A)	445W (1.94A)
75	595W (2.60A)	585W (2.55A)	575W (2.51A)	565W (2.47A)	560W (2.45A)	550W (2.40A)	540W (2.36A)	530W (2.31A)	520W (2.27A)	510W (2.23A)
77	615W (2.69A)	610W (2.66A)	600W (2.62A)	590W (2.58A)	580W (2.53A)	570W (2.49A)	560W (2.45A)	550W (2.40A)	540W (2.36A)	530W (2.31A)
80	660W (2.88A)	650W (2.84A)	640W (2.8A)	630W (2.75A)	625W (2.73A)	615W (2.69A)	605W (2.64A)	595W (2.60A)	585W (2.55A)	575W (2.51A)
85	730W (3.19A)	720W (3.15A)	710W (3.10A)	700W (3.06A)	690W (3.01A)	680W (2.97A)	670W (2.93A)	660W (2.88A)	650W (2.84A)	640W (2.8A)
90	800W (3.5A)	790W (3.45A)	780W (3.41A)	770W (3.36A)	760W (3.32A)	750W (3.28A)	740W (3.23A)	730W (3.19A)	720W (3.15A)	710W (3.10A)
95	870W (3.80A)	860W (3.76A)	850W (3.71A)	840W (3.67A)	830W (3.63A)	820W (3.58A)	810W (3.54A)	800W (3.5A)	790W (3.45A)	780W (3.41A)
100	945W (4.13A)	935W (4.09A)	925W (4.04A)	915W (4.00A)	905W (3.95A)	895W (3.91A)	885W (3.87A)	875W (3.82A)	865W (3.78A)	855W (3.74A)
105	1025W (4.48A)	1015W (4.44A)	1005W (4.39A)	995W (4.35A)	985W (4.30A)	975W (4.26A)	965W (4.22A)	955W (4.17A)	945W (4.13A)	935W (4.09A)
110	1105W (4.83A)	1095W (4.79A)	1085W (4.74A)	1075W (4.70A)	1065W (4.65A)	1055W (4.61A)	1045W (4.57A)	1030W (4.50A)	1020W (4.46A)	1010W (4.41A)
115	1185W (5.18A)	1175W (5.14A)	1165W (5.09A)	1155W (5.05A)	1145W (5.00A)	1135W (4.96A)	1125W (4.92A)	1115W (4.87A)	1105W (4.83A)	1095W (4.79A)
120	1270W (5.55A)	1260W (5.51A)	1250W (5.46A)	1240W (5.42A)	1230W (5.38A)	1220W (5.33A)	1210W (5.29A)	1200W (5.25A)	1190W (5.20A)	1175W (5.14A)
125	1355W (5.92A)	1345W (5.88A)	1335W (5.84A)	1325W (5.79A)	1315W (5.75A)	1305W (5.70A)	1295W (5.66A)	1285W (5.62A)	1275W (5.57A)	1265W (5.53A)
130	1445W (6.32A)	1435W (6.27A)	1425W (6.23A)	1415W (6.19A)	1405W (6.14A)	1395W (6.10A)	1385W (6.05A)	1375W (6.01A)	1365W (5.97A)	1355W (5.92A)
135	1540W (6.73A)	1530W (6.69A)	1520W (6.65A)	1510W (6.60A)	1500W (6.56A)	1490W (6.51A)	1475W (6.45A)	1465W (6.40A)	1455W (6.36A)	1455W (6.36A)
140	1635W (7.15A)	1625W (7.10A)	1615W (7.06A)	1605W (7.02A)	1595W (6.97A)	1585W (6.93A)	1570W (6.86A)	1560W (6.82A)	1550W (6.78A)	1540W (6.73A)

* As all of the electrical input is converted to heat, the electrical input power is the same as the heat output

Mounting Heights and Comfort

Occupant comfort maps for 600mm wide panels

These tables give an indication of occupant comfort for 600mm wide panels where occupants will be sedentary under the panels for prolonged periods.

Outputs are per linear metre of 600m panel based on face plate temperature and ambient temperature.

2.7 Metre Mounting Height

	Ambient Temperature °C									
/°C	16	17	18	19	20	21	22	23	24	25
40	120	114	108	105	99	93	90	84	78	75
45	150	144	138	135	129	123	117	114	108	102
50	180	174	171	165	159	153	150	144	138	132
55	213	207	204	198	192	186	180	177	171	165
60	246	243	237	231	225	219	213	210	204	198
65	282	276	273	267	261	255	249	243	237	231
70	318	315	309	303	297	291	285	279	273	267
75	357	351	345	339	336	330	324	318	312	306
77	369	366	360	354	348	342	336	330	324	318
80	396	390	384	378	375	369	363	357	351	345
85	438	432	426	420	414	408	402	396	390	384
90	480	474	468	462	456	450	444	438	432	426
95	522	516	510	504	498	492	486	480	474	468
100	567	561	555	549	543	537	531	525	519	513
105	615	609	603	597	591	585	579	573	567	561
110	663	657	651	645	639	633	627	618	612	606
115	711	705	699	693	687	681	675	669	663	657
120	762	756	750	744	738	732	726	720	714	705
125	813	807	801	795	789	783	777	771	765	759
130	867	861	855	849	843	837	831	825	819	813
135	924	918	912	906	900	894	885	879	873	873
140	981	975	969	963	957	951	942	936	930	924

Comfort maps are available for other heights and panel widths on request.

3.5 Metre Mounting Height

	Ambient Temperature °C									
/°C	16	17	18	19	20	21	22	23	24	25
40	120	114	108	105	99	93	90	84	78	75
45	150	144	138	135	129	123	117	114	108	102
50	180	174	171	165	159	153	150	144	138	132
55	213	207	204	198	192	186	180	177	171	165
60	246	243	237	231	225	219	213	210	204	198
65	282	276	273	267	261	255	249	243	237	231
70	318	315	309	303	297	291	285	279	273	267
75	357	351	345	339	336	330	324	318	312	306
77	369	366	360	354	348	342	336	330	324	318
80	396	390	384	378	375	369	363	357	351	345
85	438	432	426	420	414	408	402	396	390	384
90	480	474	468	462	456	450	444	438	432	426
95	522	516	510	504	498	492	486	480	474	468
100	567	561	555	549	543	537	531	525	519	513
105	615	609	603	597	591	585	579	573	567	561
110	663	657	651	645	639	633	627	618	612	606
115	711	705	699	693	687	681	675	669	663	657
120	762	756	750	744	738	732	726	720	714	705
125	813	807	801	795	789	783	777	771	765	759
130	867	861	855	849	843	837	831	825	819	813
135	924	918	912	906	900	894	885	879	873	873
140	981	975	969	963	957	951	942	936	930	924

Key

- Red** Output level not recommended at this mounting height and panel width
- Amber** Output level comfort at this mounting height and panel width will depend on area usage
- Green** Output level comfort will be acceptable at this mounting height and panel width

4.5 Metre Mounting Height

	Ambient Temperature °C									
/°C	16	17	18	19	20	21	22	23	24	25
40	120	114	108	105	99	93	90	84	78	75
45	150	144	138	135	129	123	117	114	108	102
50	180	174	171	165	159	153	150	144	138	132
55	213	207	204	198	192	186	180	177	171	165
60	246	243	237	231	225	219	213	210	204	198
65	282	276	273	267	261	255	249	243	237	231
70	318	315	309	303	297	291	285	279	273	267
75	357	351	345	339	336	330	324	318	312	306
77	369	366	360	354	348	342	336	330	324	318
80	396	390	384	378	375	369	363	357	351	345
85	438	432	426	420	414	408	402	396	390	384
90	480	474	468	462	456	450	444	438	432	426
95	522	516	510	504	498	492	486	480	474	468
100	567	561	555	549	543	537	531	525	519	513
105	615	609	603	597	591	585	579	573	567	561
110	663	657	651	645	639	633	627	618	612	606
115	711	705	699	693	687	681	675	669	663	657
120	762	756	750	744	738	732	726	720	714	705
125	813	807	801	795	789	783	777	771	765	759
130	867	861	855	849	843	837	831	825	819	813
135	924	918	912	906	900	894	885	879	873	873
140	981	975	969	963	957	951	942	936	930	924