



**DONOHUE HEATING SERVICES
RADIANT DATA SHEETS**



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SMART

At Merriott we're always looking for ways to work SMARTer. Our innovative designs, rigorous quality procedures and best in class manufacturing processes, guarantee the highest quality, efficient, bespoke design radiators, coupled with premium levels of customer service.

Our heating solutions are fit for purpose and easy to use, whilst being low maintenance and easy to manage. They can be used in any commercial environment with our quality seal of approval and are made using only the finest components to ensure a durable, strong finish. We design products to make people feel comfortable.

Safe & Simple
Manageable
Adaptable & Assured
Robust
Temperate

The Merriott SMART range of Radiant ceiling panels provides an alternative to traditional heat emitters. Radiant heat from ceiling panels delivers heat directly to those areas where it is required, giving you a more pleasant climate to work in. With a range of panels available, Merriott can offer the perfect solution to any heating or cooling requirement.

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Product Description

The SMART Plus radiant panel is a sleek lightweight yet robust panel offering the ideal solution for heating and cooling the commercial office, health and education sectors. Manufactured from 1mm aluminium sheet fascia, achieving quick response times and high thermal transfer. Available in flat or perforated finish in a choice of colours. The SMART Plus panel has class leading performance under EN14037 test criteria. There are 4 types of SMART Plus panel available:

- Single units – for T-Bar or free-hanging applications
- Strips – combinations of panels in series for both T-Bar and free-hanging applications
- Sails – free hanging units adapted to incorporate other items
- Framed Units – for plasterboard solutions



Single Panels

Single panels of up to 3m in length are available in seven widths in 150mm increments 300/450/600/750/900/1050 and 1200mm.

These come in nominal sizes with 70° profiled sides to fit within a T-Bar ceiling or in actual sizes with 90° side profiles for free-hanging applications.

The front facia is available in either smooth or perforated finish.



90° Profiled Side



70° Profiled Side

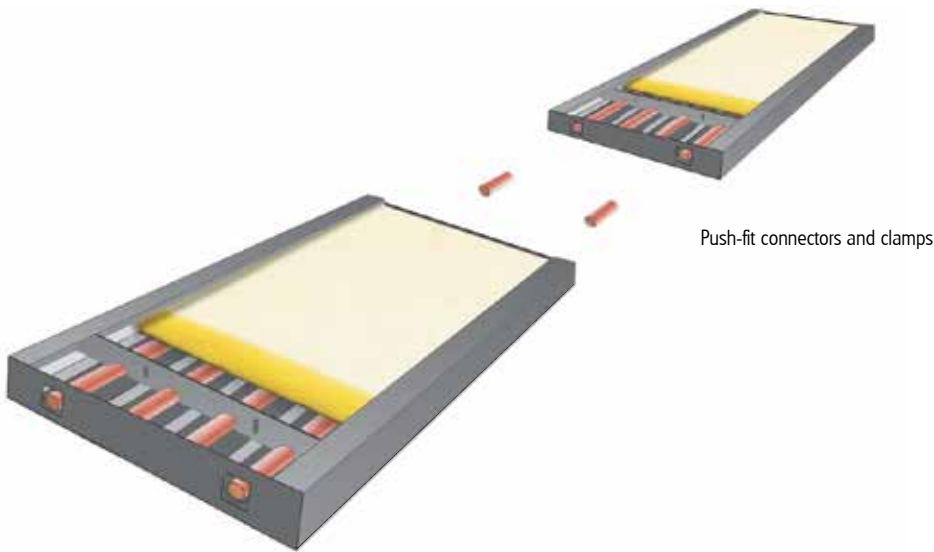
/02



Strips

A series of single panels, each up to 3m long, connected together using hidden special clamps and connectors (provided by Merriott) to achieve a strip with a maximum of 30m total length.

- Lengths come made to measure +/- 2mm.
- Hidden headers can be added to direct flow when required.
- The front fascia is available in either smooth or perforated finish.
- Strips are available in both T-Bar and free hanging applications.



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Sails

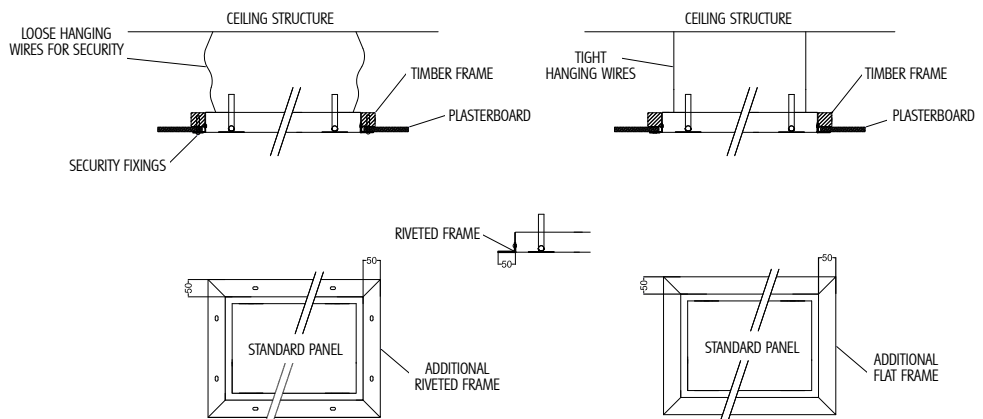
Free-hanging single panels or strips can be adapted to incorporate such items as lights, sprinklers, ventilation or ball guards. The front fascia is available in either smooth or perforated finish, with or without acoustic performance.



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Plasterboard

50mm frames can be added to the perimeter of single panels or strips with or without fixing holes for use within plasterboard ceilings. A special hinge version is available upon request.



Standard Features

- Flat smooth finish in Standard white RAL 9016/9010
- Dual function – heating with cooling capability
- Bespoke production to technical requirement
- Wide range of widths and lengths
- 40mm thick high density and non-flammable insulation
- Panels can be connected in series
- Maximum width of up to 1200mm and maximum length modules of 3000mm
- Lightweight yet rigid aluminium construction
- Patented push fit connections and clamps included

Optional Features

- 70° or 90° profiles for ceiling grids or free-hanging installations
- Perforated finish and acoustic insulation
- Finish in any RAL colour
- Ball guards/deflectors
- Cut-Outs for light or other auxiliary items
- Special side profile options for Sail applications
- Mitred corners
- Angled end profiles
- Framed plasterboard option
- Special framed and hinged plasterboard option
- Special bespoke solutions available upon request

Benefits

- One system can provide both heating and cooling performance
- Reduced Energy consumption - lower heat emissions and lower running costs than a conventional heating system
- Fast reaction times, short heat-up times
- Good controllability
- Silent operation
- Maintenance free
- Maximisation of wall space
- Ideal for high ceilings
- Lightweight, modular design is easy to handle
- Can incorporate other services (e.g. lighting)
- Reduces ceiling costs
- Aesthetically discrete



Product Specification

SMART Plus Radiant Ceiling Panels

The following specification can be used for specifying Merriott SMART Plus radiant panels:

Technical Specification

- 1mm Aluminium sheet fascia for lightweight construction
- Bonded anodised aluminium pipe carriers encapsulating 85% of the waterways achieving quick response times and high thermal transfer
- 15mm OD x 1mm seamless copper tube waterways press formed into the carriers at 100mm centres
- 60mm side profiles for high rigidity
- Integral dual functional suspension bars
- Concealed headers are added when needed
- Special joining pushfit connectors and clamps provided for joining modules
- Weight of product with insulation and water 12kg/s/m

Technicalities/Operating Parameters

- Test pressure 10 bar
- Max working pressure 4 bar
- Max operating temperature 90°C

Side profiles

- 90° angle for free-hanging installations
- 70° angle for ceiling grid installations
- Rounded profiles special order



Front Fascia

- Smooth
- Perforated with enhanced acoustic performance



Insulation

- Standard Factory fitted Acoustic mat 40mm thick c/w fibre fleece both sides with thermal conductivity 040, raw density min. 30kg/sq. M.
- Foil encapsulated
- PTE encapsulated
- Insulation to be removed for increased cooling performance



Finish

- White powder paint finish to be standard RAL 9016
- White powder paint finish to be RAL 9010 antibacterial
- Non-Standard colour reference



Installation

All panels to be installed in accordance with the manufacturers recommended methods/guidelines. All final connections to panels to be via steel braided flexible hoses.

Performance

The Merriott **SMART** Plus Radiant Panel heating outputs have been tested to and are fully compliant with EN 14037 certification

Heating Outputs							
Model	SPL 300/2	SPL 450/3	SPL 600/4	SPL 750/5	SPL 900/6	SPL1050/7	SPL1200/8
Installation width (mm)	300/295	450/445	600/595	750/745	900/895	1050/1045	1200/1195
$\Delta T(^{\circ}\text{C})$	W/m	W/m	W/m	W/m	W/m	W/m	W/m
5	12	16	20	24	28	32	36
10	27	37	47	56	65	74	83
15	43	60	76	91	105	120	135
20	60	84	107	128	149	170	191
25	78	109	140	168	195	222	249
30	96	136	175	209	242	276	310
35	115	163	211	251	291	332	372
40	135	191	247	295	342	390	437
45	155	220	285	340	394	448	503
50	175	249	323	385	447	509	570
55	196	279	363	432	501	570	639
56.5	202	288	375	446	517	599	660
60	271	309	403	480	556	633	709
65	238	340	443	528	612	696	780
70	260	371	485	577	669	761	852

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The Merriott **SMART** Radiant Panel cooling outputs have been tested to and are fully compliant with DIN 4715 certification.

Cooling Outputs							
Model	SPL 300/2	SPL 450/3	SPL 600/4	SPL 750/5	SPL 900/6	SPL1050/7	SPL1200/8
Installation width (mm)	300/295	450/445	600/595	750/745	900/895	1050/1045	1200/1195
$\Delta T(^{\circ}\text{C})$	W/m	W/m	W/m	W/m	W/m	W/m	W/m
1	2	4	5	7	8	9	11
2	5	8	10	13	16	19	22
3	8	12	16	20	25	29	33
4	10	16	21	27	34	39	45
5	13	20	27	34	42	49	56
6	15	24	32	41	51	59	68
7	18	28	38	49	60	69	80
7.5	19	30	41	52	64	74	85
8	21	32	44	56	68	80	91
8.5	22	34	46	59	73	85	97
9	23	36	49	63	77	90	103
10	26	40	55	70	86	100	115
11	29	44	60	77	95	111	127
12	32	48	66	85	104	121	139
13	34	53	72	92	113	131	151
14	37	57	78	99	122	142	163

Warranty

The Merriott **SMART** range of Radiant Panels is guaranteed for a period of two years with regards to defective materials and workmanship. In order for the warranty to be valid, designers and installers must observe and adhere to BS EN 12828:2003, "Heating systems in buildings – design for water based heating systems" and installers must adhere to BS EN 14336:2004 "Heating system in buildings – installation and commissioning of water based heating systems. In addition Merriott recommends that designers and installers observe and adhere to the British Standard code of practice for the treatment of water in domestic hot water central heating systems and BS 7593:2006. Merriott recommends the use of corrosion inhibitor for all applications, failure to observe this may result in the invalidation of warranty.

For further technical information or application advice

Technical Support

Email: radiantsales@merriottuk.com

Tel: 07525 128 299

Merriott UK (Manufacturing Facility)

Merriott, Imperial Park, Newport, Gwent, NP10 8FS

Tel: +44 (0) 1633 657 000

Fax: +44 (0) 1633 681 864

Merriott Ireland

Derrylin, Co. Fermanagh, Northern Ireland, BT92 9AU

For contact numbers please see below.

UK Enquiries

Tel: +44 (0) 1633 657223

Fax: +44 (0) 1633 657215

Irish Enquiries

Northern Ireland

Tel: +44 (0) 800 389 9980

Fax: +44 (0) 286 774 2998

Republic of Ireland

Tel: +353 (0) 1800 882 332

Fax: +44 (0) 286 774 2998

Email: sales@merriottuk.com

Web: www.merriottuk.com / www.merriott.ie

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