



## Destratification Systems

### Get In Touch



Call: [0845 6880112](tel:08456880112)



Email: [info@adremit.co.uk](mailto:info@adremit.co.uk)

### Our Address

Puravent, Adremit Limited, Unit 5a, Commercial Yard,  
Settle, North Yorkshire, BD24 9RH





## CONTENTS:

1. Introduction to Destratification & PHI
2. Airius Client List
3. Airius Features & Benefits
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# SAVE 20% - 50% ON YOUR HEATING AND COOLING COSTS



“Thermal Stratification - the single biggest waste of energy in buildings today”

Airius are air circulation experts specialising in thermal destratification systems. Airius has helped hundreds of businesses from SMEs to major Blue Chip companies make real reductions in their energy usage and carbon emissions with over 50,000 destratification units sold worldwide.



The Airius destratification system offers substantial annual energy savings on both heating and cooling costs, reducing consumption by 20% to 50% by maximizing the performance of existing HVAC systems and equipment. This is supported by research conducted by utility giant DTE Energy, which found that thermal stratification is the single biggest waste of energy in buildings today, as well as by the Carbon Trust who recommend destratification as one of its top 3 carbon saving measures.



“Indoor Air Quality - paramount in maintaining a successful business and workforce”

The Airius PHI air purification and odour control system significantly improves indoor air quality (IAQ), reducing viruses, bacteria, gases, VOCs (Volatile Organic Compounds), sick building syndrome, mould and odours by over 90% whilst an advanced atmosphere oxidation technology gives indoor environments fresh, clean and odour free air. Contact Airius for further details.

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AIRIUS CLIENTS INCLUDE...



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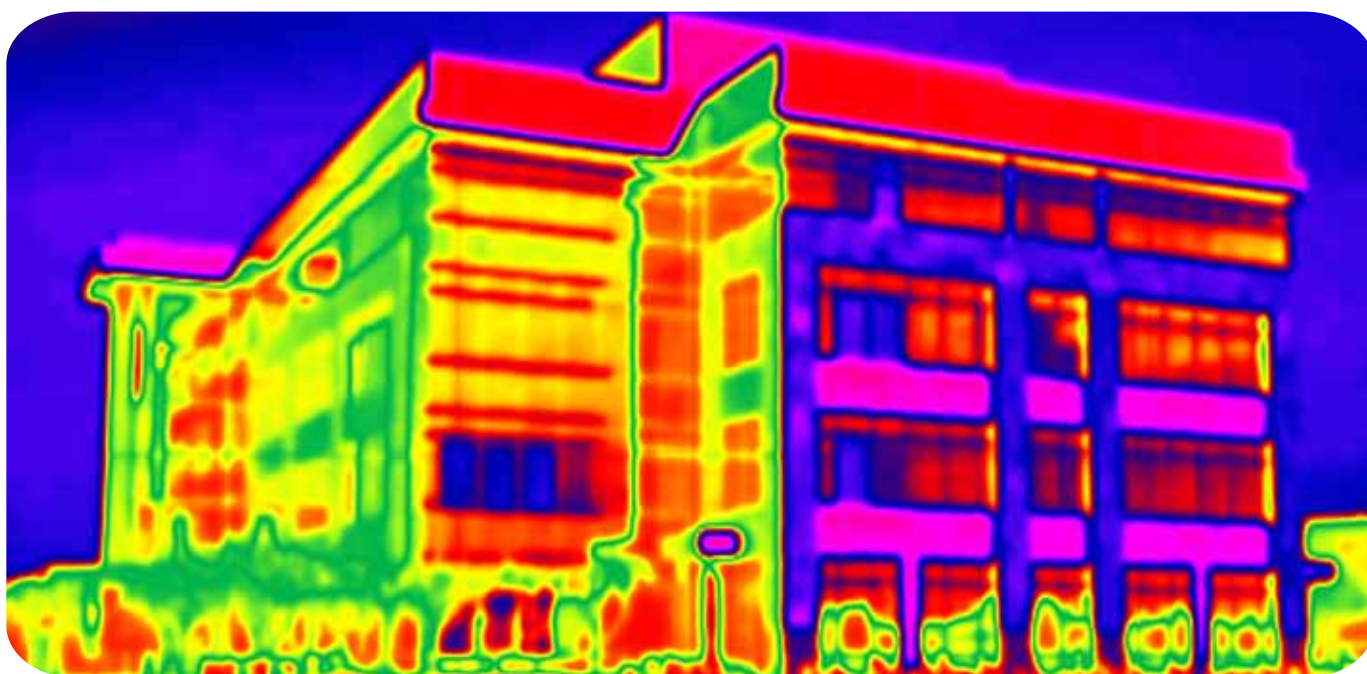
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## Save 20% - 50% on your heating and cooling costs

- Reduces heating costs by 20% - 50%
- Reduces CO<sub>2</sub> emissions by 20% - 50%
- Reduces condensation
- Small, versatile, unobtrusive units
- Simple to install with no ducting required
- No maintenance required
- Reduces wear on existing HVAC equipment
- Eligible for carbon reducing grants / loans
- Established and proven technology
- Reduces cooling costs by 20% - 40%
- Recycles heat from machinery, lighting, heat gain etc.
- Maintains optimum working / retail environment
- Minimal running costs (from £6 / pa)
- Stand alone or BMS integrated
- Rapid ROI - usually between 12 - 30 months
- Works alongside all types of HVAC systems
- Simple, inexpensive and efficient CRC solution
- Customers include FTSE100 companies to SMEs




Destratification is the equalisation of air temperature within a building or enclosed space. Naturally, warm air rises away from floor level, customers and staff, whilst more dense cool air sinks, easily becoming trapped in cold spots and is difficult to circulate. Airius destratification systems prevent this process.



Using energy efficient motors and patented columnar air flow technology, the Airius system is more versatile and efficient than any other system, circulating internal atmospheres and optimising heating and cooling systems to create a uniform temperature to within 2°C from floor to ceiling.

This results in significant energy savings and reduced carbon emissions, as well as vastly improving internal temperatures and air quality.

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PRODUCT TESTING & RESEARCH

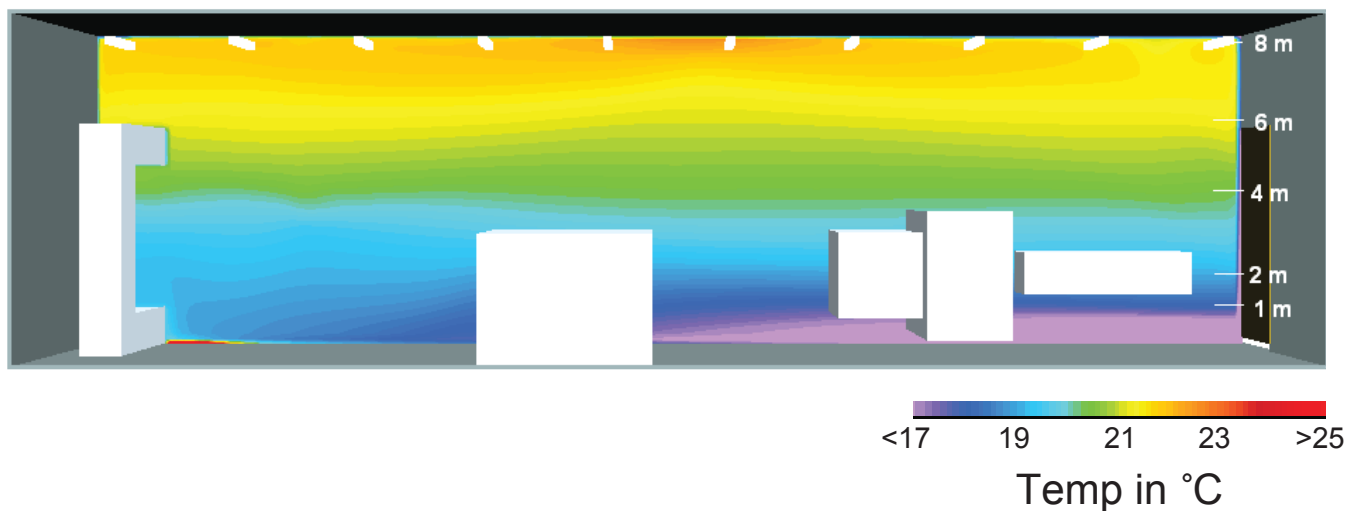
Airius and the Building Services Research & Information Association (BSRIA) together have produced a comprehensive testing and Computational Fluid Dynamic (CFD) report, the results of which support the efficiency of the Airius system and can be found on the BSRIA website at [www.bsria.co.uk](http://www.bsria.co.uk) or the Airius website at [www.airius.co.uk](http://www.airius.co.uk).



Independent BSRIA Testing & CFD Study

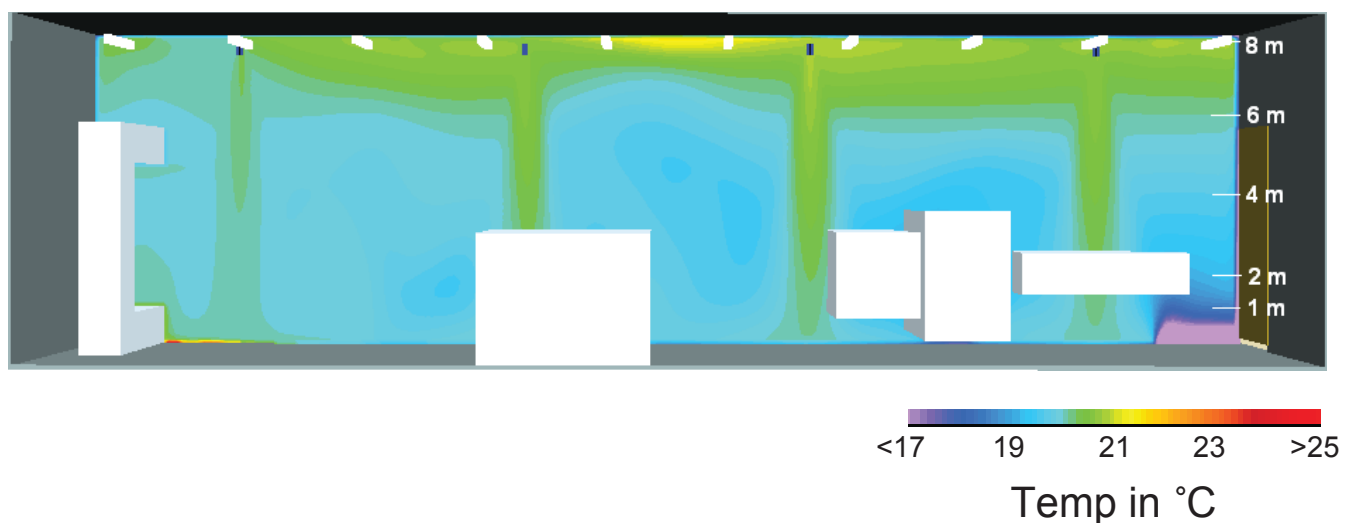
Room pre Airius installation

Figure 1



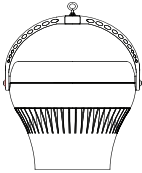
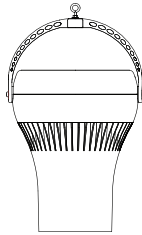
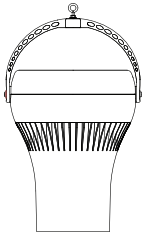
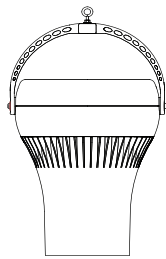
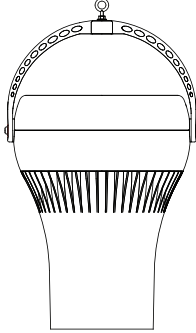
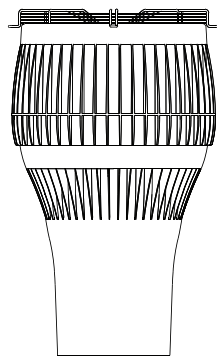
Room post Airius installation

Figure 2





## TECHNICAL INFORMATION

Technical Drawings					
Model 10	Model 15	Model 25	Model 45	Model 60	Model 100
					
Height: 410mm Width: 330mm	Height: 560mm Width: 330mm	Height: 560mm Width: 330mm	Height: 610mm Width: 380mm	Height: 813mm Width: 464mm	Height: 845mm Width: 495mm

Airius units are available as free hanging fans applicable for ceiling heights from 2.5m to 31m, or can be installed into suspended ceilings with our 600mm x 600mm suspended ceiling kit.

Technical Specifications							
	Model 10	Model 15	Model 25	Model 45/PS-4	Model 45/PS-2	Model 60	Model 100
Average Floor Area:	46m <sup>2</sup>	74m <sup>2</sup>	111m <sup>2</sup>	111m <sup>2</sup>	139m <sup>2</sup>	186m <sup>2</sup>	232m <sup>2</sup>
Diameter Coverage:	7.5m	9.7m	12m	12m	13m	15m	17m
Ceiling Heights:	2.5m - 3.5m	4m - 5m	5.5m - 8m	8.5m - 12m	12.5m - 14m	15m - 18m	19m - 31m
Volts <sup>1</sup> :	230	230	230	230	230	230	230
Watts @ 50 Hz <sup>1</sup> :	12	15	31	42	125	120	390
RPM @ 50 Hz <sup>1</sup> :	980	1230	1450	1400	2450	1390	1690
CFM @ 50 Hz <sup>1</sup> :	318	406	460	595	1072	1667	3358
m <sup>3</sup> /hr <sup>1</sup> :	540	690	780	1010	1821	2832	5705
AMPS @ 50 Hz <sup>1</sup> :	.06	.06	.13	.19	.54	.57	2.5
Thermal Shut Off <sup>1</sup> :	110°C	110°C	110°C	135°C	135°C	135°C	135°C
Noise Level <sup>2</sup> :	0 - 25dB	0 - 30dB	0 - 34dB	0 - 34dB	0 - 49dB	0 - 47dB	0 - 43dB
Unit Weight:	3.2 kgs	4.1 kgs	4.1 kgs	6.4 kgs	6.4 kgs	10 kgs	20.5 kgs
Height to Rim:	305 mm	410 mm	410 mm	457 mm	457 mm	610 mm	845 mm
Height (inc handle):	410 mm	560 mm	560 mm	610 mm	610 mm	813 mm	N/A
Diameter:	330 mm	330 mm	330 mm	380 mm	380 mm	464 mm	495 mm

<sup>1</sup>Motor data provided by motor manufacturer and is subject to change at any time.

<sup>2</sup>Noise levels recorded from installed units at floor level.

Each facility has unique fluid dynamics, please contact supplier to specify your system.



APPLICATIONS FOR THE AIRIUS SYSTEM

Any building which has a ceiling height from 2.5 to 31 metres and a heating or cooling system will benefit from the Airius system. In some cases even those buildings without heating or cooling will feel the benefits of a fresher environment and the natural cooling effect of moving air during the summer, as well as recirculating heat emitted from lighting, machinery, office equipment and body heat during winter months.

See a selection of our installations below...



Supermarkets



Offices



Warehouses





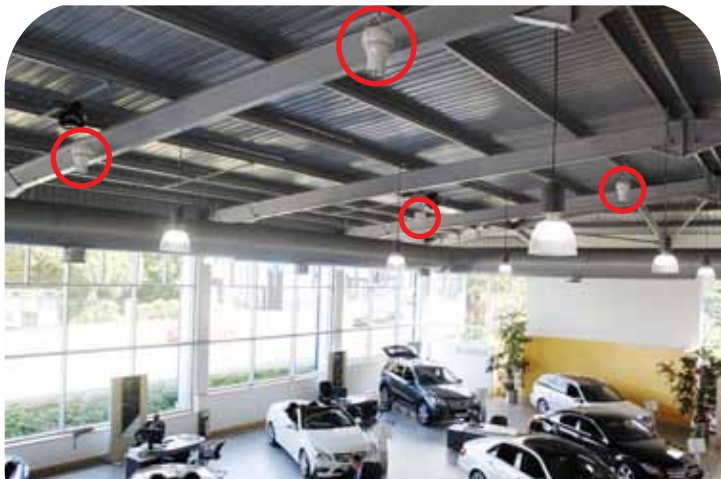
Destratification - Installation Images



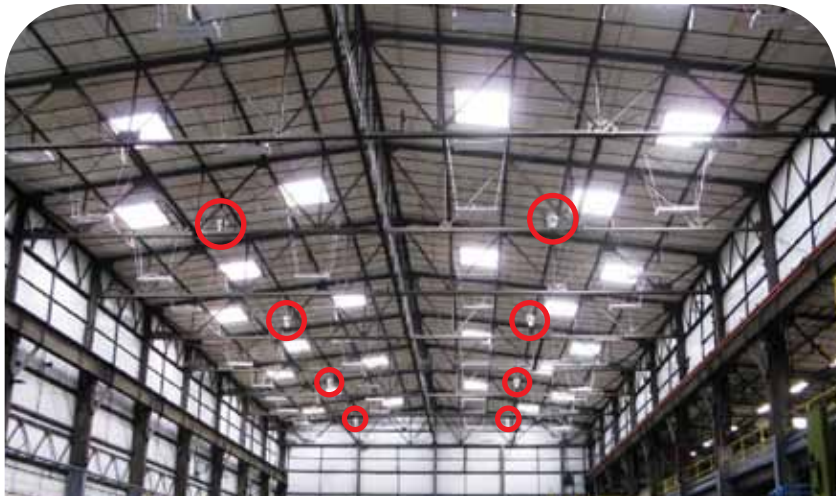
Retail Outlets



Transport Buildings



Car Showrooms





Factories



Greenhouses

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Destratification - Installation Images



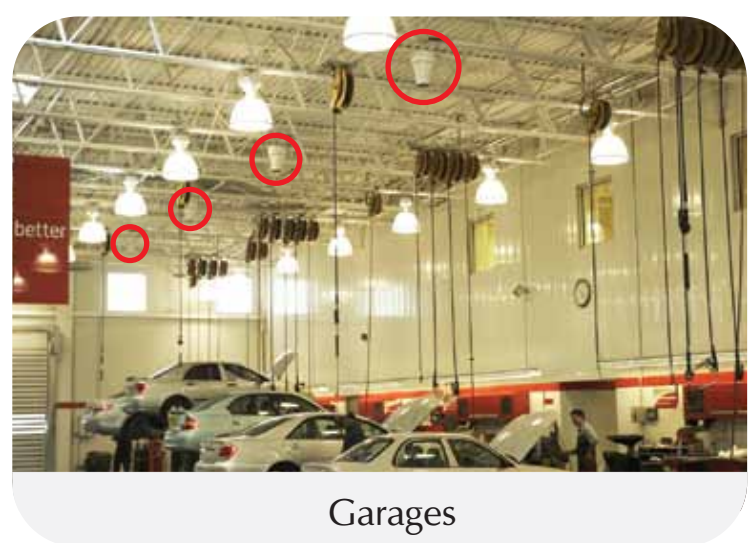
Shopping Centres



Churches



Bowling Alleys



Garages



Sports Halls

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## Case Studies & Performance Reports



### Impress Metal Packaging Ltd



Impress installed the Airius system into the can assembly area of their Norfolk factory facility to save on heating costs & their investment was repaid 3 times over in the first winter they were installed.

#### Key Points:

- 45.7% - Overall Savings 08/09
- £62,351 - First winter savings
- £21,268 - Full system & installation cost
- 3,000m<sup>2</sup> - Floor area
- £793 - Winter season running costs
- Installed into Can Assembly area
- System - 34 units
- Part of the Ardagh Group

"Overall savings taking into account lower temperatures and prices in winter 08/09 = 45.07%

The full cost of the Airius units is re-couped within a matter of months - first winter savings of £62,351 measured against a total spend of £21,268."

- Paul Matten (Plant Engineer)



### MORRISONS

Following a trial conducted in 2007 over 100 Morrisons stores have now been retrofitted with Airius system. Morrisons are now 1 of only 12 companies & the only supermarket in the UK to be awarded the prestigious Carbon Trust Standard.



Airius units were placed at 4 metre intervals in three chiller aisles reducing the stratification from 6-8°C to 1-2°C thus making the chiller aisles more comfortable (without adversely affecting the chiller units).

The Airius units are now on the standard specification list for all new stores and will be retro-fitted as part of Morrisons normal refurbishment program.

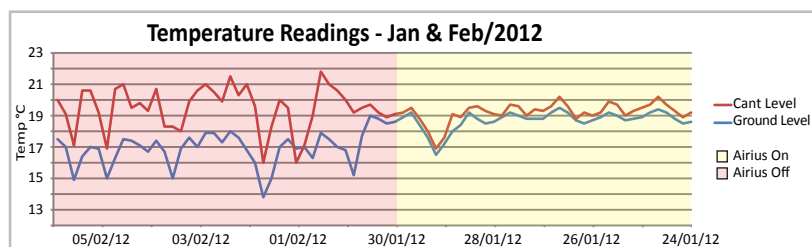
### Morrisons - Knottingly



### Siemens Transportation Systems Ltd



Siemens installed the Airius system into their Acton rail maintenance shed facility and saved 22% on their annual heating costs. This is shown in the graph below with the Airius system on balancing temperatures highlighted yellow and switched off highlighted in red.



#### Key Points:

- ROI = Under 18 months
- £12,106 - First year saving
- £19,799 - Full system & installation cost
- Installed into Acton rail maintenance shed
- System - 26 Airius Model 45 units
- 75 tonnes - Approx. annual CO<sub>2</sub> reduction

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## Customer Testimonials

### Impress Metal Packaging Ltd - Norwich – UK



"We installed the Airius system into the can assembly plant at our manufacturing site and I am very pleased with the results so far. The heating system in the building now comes on far less than it used to and the employees who work in this building are now much warmer.

**"The overall savings taking into account lower temperatures and prices in winter 08/09 = 45.07%. The full cost of the Airius units is recouped within a matter of months - first winter savings of £62,251 measured against a total spend of £21,268!!!"**

I will be looking at other buildings on our site and also recommending Airius fans to other companies within the Ardagh group who operate from many large buildings throughout Europe."

Paul Mattin – Engineering Manager

Heating Application

### Bowlplex Plc – Nantgarw - UK



"We are very impressed with the results Airius fans have achieved in our ten pin bowling centre at Nantgarw in South Wales. The atmosphere inside has been greatly improved reducing staff & customer comfort complaints by 90%. They have also allowed us to increase our thermostats from 19°C to 23.5°C resulting in a **saving of over 70% on our cooling costs.**

**The Airius system has far exceeded our expectations & will be standard equipment for all our 18 bowling centres in the UK."**

Ben Carne - Energy Manager

Cooling Application

### Traidcraft Plc - Gateshead – UK



"In September 2008 we installed the Airius destratification system in our distribution department. At the same time we also installed two high efficiency space heaters as replacements for existing heaters. Prior to these changes, in winter the difference between temperatures at floor level and roof level was approximately 5/6 degrees C.

**The difference now is approximately 1/2 degrees C and this has resulted in a reduction of approximately 25% in our gas consumption** between October `07 to March `08 and October `08 to March `09.

As you can imagine we are very pleased with the outcome."

Martin Kelly – Facilities Manager

Heating Application

### Tiso Ltd – Edinburgh - UK



**"The Airius system was installed during the summer and we were happy to find the environment now comfortable without the AC running.** Also, during the winter months we found the temperature across both levels more than satisfactory with the temperature well balanced.

This has now led to the entire AC system being decommissioned with a considerable reduction in electricity consumption. **We now consider destratification systems as a key part of our refits and store design."**

Iain Calder – Property Director

Cooling Application

### Norco GRP Ltd – Poole - UK



"We now have Airius destratification fans in all of our main production facilities totalling 80,000 sq ft. Each installation was carried out professionally and to an excellent standard, with the minimum of interruption to our very busy manufacturing facilities.



The main benefits for us are vastly improved air circulation, balance of temperature throughout the buildings, low running costs, silent and stress free operation and of course **a fantastic saving on our gas utility bill per annum. I would highly recommend Airius systems for all factory and warehouse environments."**

Mark Northy - Director

Heating Application

\*For a full list of our clients and testimonials please refer to our website at [www.airius.co.uk](http://www.airius.co.uk).

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