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BS News November/December

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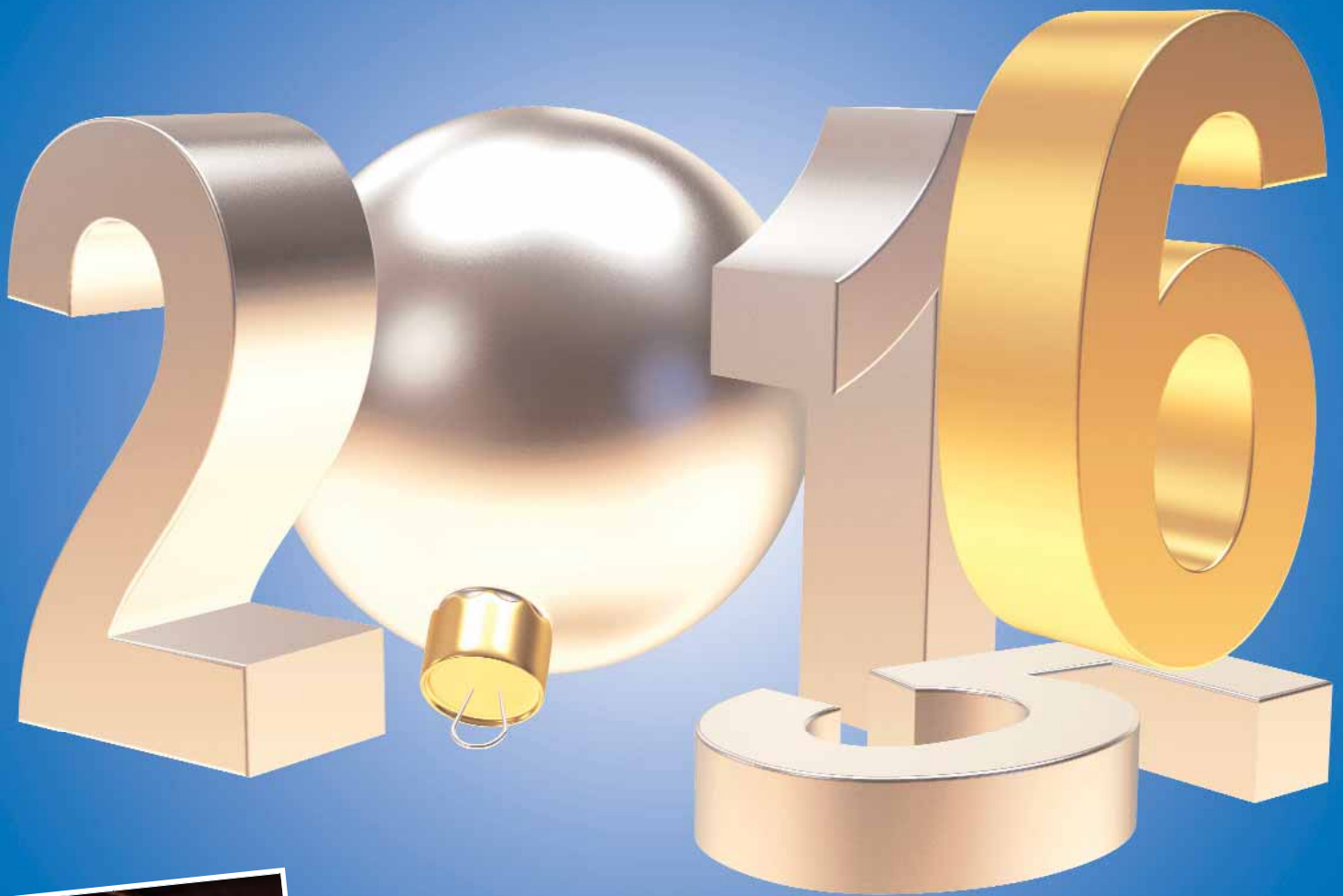
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Building Services news



Here we grow again!



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issue

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■ BIM Model Disclaimers



■ Postcard from Abroad (sort of!)



■ Architect's View on Radiators

Lossnay Kanzen

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Year end heralds new beginning!

While there have been a number of false starts to the so-called economic recovery in recent years, the year-end is tapering off on an upward curve.

There has been a surge in activity across all building services-related sectors in the last quarter, while there are numerous significant-sized projects currently at design stage that will go to site in the new year.

The release of significant tranches of funding for commercial office developments will drive this activity and this will be complemented by increased renovation and expansion of the facilities of the brand-leading international pharma and technology companies.

Evidence of growing consumer confidence and a willingness to spend on home renovation and refurbishment is also evident from a walk through any suburban neighbourhood, especially in the more affluent areas.

All in all 2016 is looking good.

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NEWS AND PRODUCTS

Something to make you really 'appy'

With today's technology, you can find a phone app to control just about anything, from a burglar alarm to a personal coffee machine!

The new Touch2WIFI system from Myson is exactly such an app. It also has a host of other useful features which include the following:

- No requirement for either a fixed ip address or Dynamic DNS service provider;
- Smart start technology;
- Geo location;
- Ability to view "live" room temperatures on your smart phone;
- Time-only setting for domestic hot water control;
- Temperature over-ride, temperature hold and holiday functions;
- Remote air and floor sensor options;
- Up to four "time and temperature" settings per day.



The new Touch2WIFI system can operate up to 32 individual thermostats and is simple to set up.

Contact: Baxi Potterton Myson. Tel: 01 – 459 0870; email: sales@pottertonm-myson.ie; www.potterton-myson.ie

Wilo Ireland 'expands' its Dublin operation

Wilo Ireland, part of the Wilo SE Group, has moved to much larger premises in Dublin where all sales and service-related operations for Ireland will expand. The new address is Unit A14, Calmount Park, Calmount Avenue, Dublin 12.



Wilo Pumps production facility was established in Limerick in 1979 with the sales subsidiary Wilo Ireland coming on stream a year later. Since then, the company has seen many changes and weathered a number of market downturns but, now that the tide has once again turned, it is investing with further confidence in the future.

"This move to new larger premises will facilitate growth and expansion in the coming years" says Derek Elton, Sales Director Wilo Ireland, "especially as we have also put in place the necessary technical sales and service back-up teams to support that expansion".

Riello's low NOx RS Series models

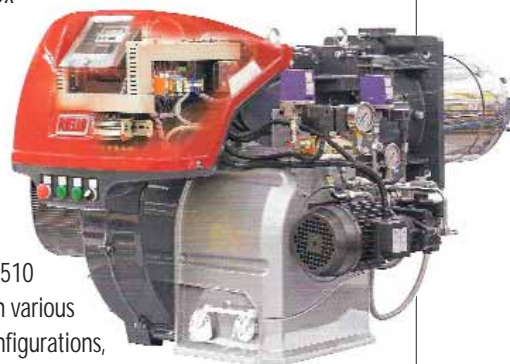
Riello has introduced low NOx (<80mg/kWh) "blue flame" versions to all sizes of its RS range of burners. This is achieved through the use of a low NOx combustion head to ensure emissions which conform to EN 676 Class 3 in capacities from 3,600 kW to 6,250 kW.

The RS series of high-power monoblock burners is characterised by the advanced technological developments that have contributed to its design and energy-efficient performance, delivering high power levels while minimising size and weight.

Dual fuel RLS low NOx models will also be available shortly, featuring a dedicated pump motor to ensure a long life for the oil pump, combined with energy-savings.

RS models 310, 410, 510 and 610 are available in various air-fuel ratio control configurations, with the option of mechanical cam or electronic cam for modulation control. Variable speed drive technology ensures both low noise and electrical power savings.

Contact: www.rielloburners.co.uk



Daikin appoints Michael Sheehan

Michael Sheehan, who needs no introduction to the building services sector in Ireland, has been appointed Sales Manager, Air Conditioning & Applied Products, for Daikin Ireland.

Michael is qualified in electrical engineering with 35 years experience in the industry. He spent the first seven years of his career in consultancy with J A Kenny & Partners, and then switched to sales and marketing, spending almost 27 years with one of the leading air conditioning and heating suppliers in the market.

Approximately 12 months ago he retired from his position to take time out and consider new challenges. Now he returns re-energised and eager to bring fresh ideas to the sector in his role with Daikin Ireland.

Contact: Michael Sheehan, Daikin Ireland. Tel: 01 – 642 3430; Mobile: 087 – 256 1691; email: sheehan.m@daikin.ie



NEWS AND PRODUCTS

BTU at Newlands

Newlands Golf Club was the venue for the most recent BTU outing with Mueller Ireland providing the sponsorship on the day. Forty participants took on the stern challenge that is Newlands though the perfect playing conditions – immaculate course and beautiful weather – made for a very enjoyable day's golf.

Mueller's Conor Lennon presented a wonderful array of prizes to the various class winners. Scoring was competitive with John White emerging the overall winner.



Left: Conor Lennon, Mueller (sponsor) with David Daly, front nine winner and BTU Captain Seamus Kiernan.



Below: Overall winner John White (centre) with sponsor Conor Lennon, Mueller and BTU Captain Seamus Kiernan.

Results

Overall Winner: John White, H16, 36pts (back nine).

Class 1 – First: Sean Byrne, H12, 36pts; Second: Des Prendergast, H7, 34pts (back nine).

Class 2 – First: Maurice Kelly, H14, 30pts; Second: Conor Lennon, H13, 28pts.

Class 3 – First: Des Binley, H23, 34pts (back nine); Second: Dominic Ward, H22, 34pts.

Front Nine – David Daly, H24, 19pts.

Back Nine – Seamus Kiernan, H12, 16pts.

Visitors Prize – Tom Fitzpatrick, H25, 29pts.



CONDAIR RS

New resistive steam humidifier with advanced scale management



The new Condair RS steam humidifier's patented scale management system makes servicing simple. Scale detaches from the heating elements and falls into the external collector tank where it is easily removed.

As the humidifier has a cleanable boiling chamber, it does not need disposable boiling cylinders, significantly reducing operating costs in comparison to electrode boiler systems.



New Ireland sales manager – Pat Byrne

Discover more about the Condair RS

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NEWS AND PRODUCTS

Johnson Controls and Hitachi complete joint venture

Johnson Controls, Hitachi Ltd and Hitachi Appliances Inc have completed their global joint venture agreement and commenced the operations of Johnson Controls-Hitachi Air Conditioning.

Through the agreement Johnson Controls now has a 60% stake in the new entity – which has more than €2.6 billion sales annually – while Hitachi Appliances retains ownership of the remaining 40% of the company.

The joint venture management team will be led by Franz Cerwinka, Chief Executive Officer, and Shinichi Iizuka, Chief Operating Officer and President. Cerwinka has 20 years experience with Johnson Controls while Iizuka has been with Hitachi for over 35 years. He spent eight years in India as the president of Hitachi Home & Life Solutions India Ltd and has led Hitachi’s air conditioning business since 2013.

“I have spent my career with Hitachi and know that combining with Johnson Controls will propel us forward to outperform the competition,” added Iizuka. “Just as Hitachi and Johnson Controls have each made innovation the foundation of their separate success, innovation will now be the cornerstone of Johnson Controls-Hitachi Air Conditioning’s success.”

The new company’s operations in Ireland will continue to operate as before.

GreenBuild Consult

HLM in Belfast has formed an association with GreenBuild Consult to create HLMGreenBuild. The first alliance of its kind, the team will provide a comprehensive, design-led, integrated sustainability consultancy.

HLM is an architecture, interior design, landscape architecture and sustainability practice. It has a dedicated in-house team that champions strategies for sustainable design and sets demanding environmental targets so projects address sustainability as a fully integrated part of the design process.

GreenBuild is a sustainable construction consultancy, which won BREEAM 2015 Assessor Company of the Year at the BREEAM Awards and is also the only firm to have

achieved a BREEAM Assessment, scoring 101.9%.

As a combined team, HLMGreenBuild will provide consultancy across the entire project process, from the sustainability and design strategy through to compliance, construction on site and ongoing operations.

Photo shows the Community Fire Station at Omagh which has been shortlisted for Sustainable Building Project of the Year category in the Sustainable Ireland Awards.



Geothermal ‘Installation of the Year’ competition

The **Geothermal Association** of Ireland (GAI) has announced details of the GAI Brecon Mooney Awards 2016 which were devised to acknowledge and promote geothermal installations of exceptional merit.

To enter the competition an installation must have been in service since, or before, 31 October 2014. Subject to the number and quality of entries received, and subject to the standard of excellence of the installations assessed, there will be several categories in the competition.

Criteria to be used in the assessment of the entries will include, but not necessarily be limited to:

- Comprehensiveness of design;
- Quality of installation;
- Energy performance;
- Operating performance;
- Environmental due diligence;
- Assessment of geological/ground conditions



Closing date for entries is Tuesday, 29 January, 2016 at 4pm.

Entries of merit will be displayed at the Energy Show in Dublin on 6/7 April 2016 with the winners also being announced at the show.

Details: <http://geothermalassociation.ie/awards.html>

Fergus Daly joins Mitsubishi Electric

Mitsubishi Electric Ireland has appointed Fergus Daly as Area Sales Manager for the Eastern Region. Fergus has extensive industry experience having worked in the industry for over 15 years with Crystal Air, Dean & Wood and Hitachi. In his new role Fergus will be responsible for managing and developing Mitsubishi Electric’s customer base in the East of Ireland. His enthusiasm and knowledge of refrigeration and the market will bolster Mitsubishi Electric’s position as market leader. “Fergus is



well respected in the industry and his appointment further strengthens the team and our commitment to supporting our partners in the air-conditioning sector. These are exciting times in the industry and for Mitsubishi Electric”, said Richard Sherlock, Field Sales Manager of the Air-Conditioning and Heating Divisions for the Irish Branch.

Contact: Mitsubishi Electric Ireland. Tel: 01 - 419 8800; email: sales.info@meir.mee.com; www.mitsubishielectric.ie

NEWS AND PRODUCTS

Trend's new IQ[®]4E controller

Building on the outstanding success of its IQ[®]4 range of controllers, Trend Control Systems has introduced IQ[®]4E, a state-of-the-art building energy management system (BEMS). It offers flexibility, functionality and fast performance packed into an extremely small footprint, without compromising on features.

The IQ[®]4 is 40% smaller than the IQ[®]3xcite and, in addition, the use of vertical connectors means trunking can be situated immediately alongside the controller, saving even more space. Designed to build upon Trend's existing IQ[®]2 and IQ[®]3 ranges, IQ[®]4 enables applications of all sizes to benefit from its best-in-class technology. The ability to



upgrade between the point variants provides increased flexibility, and the increased performance enables the more complex HVAC applications to be controlled.

Protection of the customer's investment is the number one priority. IQ[®]4 full backward compatibility is in-built, meaning the IQ[®]4 range can communicate with controllers purchased over

the past 25 years. In addition, all IQ[®]3 and IQ[®]4 modules are interchangeable. Trend takes a long-term view on cost of ownership and supports a product for 10 years after it has been made obsolescent.

The IQ[®]4 controller uses industrial standard ethernet and TCP/IP networking technologies with embedded XML and is fully compatible with other Trend IQ[®] controllers. All IQ[®]4E are native BACnet over IP to ensure the investment is future proof and compatible with other BACnet systems/devices, Modbus, Mbus, KNX etc.

Contact: intelcontrols.com.
Tel: 01 – 457 5421;
email: sales@intelcontrols.com



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NEWS AND PRODUCTS

Heat Merchants competition winners

Heat Merchants "Hit the Heights" promotion to introduce the Stelrad Savanna radiator range has now concluded and the various winners have received their prizes.

There were three possible prizes to be won, in three different categories. The finalists went in to a draw with the winning names being drawn by Ivan Colleran, Product Manager of the Heat Merchants Group and Johnny Goode, Stelrad's Business Development Manager for Ireland.

The winner of the hot air balloon ride was Robert Lynch from Drogheda. The winner of the 2-night spa break at Aghadoe Heights was Anthony Coughlan from Blackpool, Cork, and the winner of the helicopter ride was Glenview Green Energy from Turners Green, also in Cork.



Ivan Colleran of Heat Merchants and Johnny Goode from Stelrad pictured making the draw.

Fantasy Lights product award

Fantasy Lights Group won the Product of the Show Award at the recent AECI Conference and Trade Show held in Hotel Kilkenny. The event proved extremely successful with delegates enjoying a mix of business and social activities as per the established format of many years. Our picture shows Chris Lundy, AECI with John Norton of Arachas (Award sponsor) and Gabriel Byrne of Fantasy Lights Group.



Tom Morgan with Ken Goodman, Sub Region B Chair; Michael Dawkins, ASHRAE Ireland Treasurer; Dr Simeon Oxizidis, ASHRAE Ireland Vice President/President-Elect; Frank Caul, ASHRAE Ireland President; Hugh O'Gorman; Michael White and Dr Donal Finn.

ASHRAE Ireland

The first board of ASHRAE Ireland was inaugurated in Portlaoise recently by Sub Region B Chair, Ken Goodman who said he was delighted to welcome Ireland as the latest section in the rapidly-growing "Region at Large" family. Frank Caul, the first President of ASHRAE Ireland, said: "I am looking forward to leading the new ASHRAE Section, promoting HVAC&R engineering

excellence in an environmentally challenging world through innovation, collaboration and knowledge sharing".

ASHRAE Ireland would like to hear from all current ASHRAE members in Ireland, whether they are employed in the industry or students, with a view to their getting involved in the group.

Contact: Frank Caul, ASHRAE Ireland. Tel: 086 – 257 7295.

Intelcontrols partners with Johnson

Intelligent Building Controls (intelcontrols.com) has entered a strategic partnership with Johnson Controls whereby it is now an exclusive distributor in Ireland for Johnson Controls. The deal is effective immediately and the company already stocks the wide Johnson Controls product range.

Intelcontrols.com and Johnson Controls will now leverage their global diversified technology and industrial leading services to customers in more than 150 countries. Johnson Controls will bring its expertise through its business unit, building efficiency, which is a leading provider of equipment, controls and services for heating, ventilating, air-conditioning, refrigeration and security systems.

Contact: Rich Costa, intelcontrols.com; email: rich.costa@intelcontrols.com

With this bumper issue ...

Apart from this being a bumper issue of *Building Services News*, it also contains your free copy of the *SDAR Journal 2015* and the *Building Services News Wall Planner 2016*.

a.p. acoustics

Noise and Vibration Containment

AP Acoustics provides acoustic enclosures for all types of mechanical and building services-related equipment, including chillers, generators, pumps etc. While the standard stock range is expansive and caters for all situations, AP Acoustics devises customised solutions for most applications. It is this unique experience and technical expertise, along with the diversity and quality of the portfolio, that sets it apart from the competition.

Whatever the noise or vibration challenge, AP Acoustics has the answer.



- Attenuators
- Vibration isolation
- Enclosures
- Louvres
- Doors
- Screens
- Audiology booths

Versatile expands Herz valve range

Based on their strong relationship built over 16 years, Versatile and Herz have worked closely together to develop an extensive valve stock range. Driven by customer demand, Versatile initially offered radiator valves and TRVs to complement its broad radiator range. However, this range has now grown to a comprehensive collection of dynamic flow control, commissioning, isolation and pre-assembly valves.

Just recently Versatile has introduced the Herz valve range of BIM (Building Information) models that Herz has collaborated on with BIMStore, one of the leading authorities on BIM for both model design and model hosting. Its background in BIM goes back over 16 years.

The design intent of the new BIM range was to produce valves that were not only in an industry-recognised format, but also in a format to allow integration with as many as possible of the CAD programs that are available and used worldwide. The decision was made to produce Herz BIMs in the Revit format used by AutoCAD/AutoDesk.

As they are in Revit format (rfa) they can also

be used within Bentley, Magicad, Lumion, Artlantis, IES, Mitek and Aconex (for example) using each company's specifically-designed Revit "plug-in". To ensure compatibility and integration with other CAD programs, the Herz BIMs are also produced in IFC, the industry's free and open translation program.

All models come with COBIE data to allow progression to the higher levels of BIM as they become more widespread and utilised. Individual parametric models (or families of models) are downloadable direct from BIMStore with the advantage that should any of the model information/parameters change, an automatic notification of a change is emailed to the registered user so they can download the

new version. This ensures that all parties are using the latest up-to date-information.

Building information modelling (BIM) represents both an enhanced technology and a process change for the architecture, engineering, construction and facilities management industries. Level 3 BIM, for modelling and documentation, allows BIM and BIMs to be used as a tool to develop and deliver design for all disciplines in a 3D format with in-built intelligent components from which information can be extracted immediately or harvested at a later stage.

Some of the benefits of BIM are as follows:

- Focus on design;
- Early visualisation by client (faster approval cycle);
- Ease of coordination between construction documents;
- Spatial coordination between disciplines;
- Clash detection and conflict resolution prior to site arrival of product.

With Herz, one of the leading European manufacturers of valves and controls for the building services industry, Versatile is an expert partner to the consultant, contractor and home owner offering a range of services from planning and design to site support and after-sales service

Contact: Tony Kennedy, Versatile.

Tel: 046 -9029444; Mobile: 086 - 027 9824; email: info@versatile.ie; www.versatile.ie ■



Versatile has introduced the Herz valve range on BIM (Building Information) models that Herz has collaborated on with BIMStore.

System Integrators

- Business Development Opportunity

As part of an ambitious development plan over the next five years, Intelligent Building Controls Ltd, exclusive distributors of Trend Controls Ltd building management systems in the Republic of Ireland, is inviting applications from companies to become System Integration Partners.

If you are interested in joining a dynamic experienced partnership utilising premium products incorporating market leading technologies then please contact gillian@intelcontrols.ie for information pack and application procedure.



AC Field Sales Executive

Mitsubishi Electric seeks a motivated and enthusiastic person to join the market leader in this fast-paced and dynamic industry. The ideal candidate will most likely have a third level qualification in a related discipline such as building services or mechanical engineering. The role will be to manage a number of existing accounts and to develop new business. This is an exciting opportunity to join the fast-expanding Mitsubishi Electric team and to be part of a new phase in the company's strategic development. Full training will be provided.

■ Salary: Negotiable ■ Start date: ASAP ■ Full driver's licence

CVs to: sales.info@meir.mee.com

Panasonic unveils new 3-way HR control boxes

Panasonic has unveiled details of the latest in its range of 3-way heat recovery (HR) control boxes with multiple connection ports that come with many benefits to make installation and pipe design easier and more efficient.

The new HR control boxes are available with 4, 6 or 8 connection ports that offer great flexibility to installers when considering various factors on site such as piping design and installation conditions.

Vincent Mahony, Panasonic Ireland explains: "Panasonic's new 3-way control box is an exciting

development in heat recovery boxes that offers a flexible solution in piping design and installation. It also increases the efficiency and speed of installation by simplifying the process significantly. These new boxes will prove particularly useful for installation in projects such as

hotel applications, where space for connecting several boxes is often limited."

To give installers more flexibility in their system design and piping layout, the new control boxes come with connection tubes for the main refrigerant circuit lines on both sides of the unit. The new 3-way HR control boxes also remove the need for purchasing individual 3-way PCB kits and solenoid valve kits for each indoor unit.

This innovative solution requires only one power supply source, simplifying and reducing costs, and time spent on the installation and design processes. As a result, this benefits the engineer and other system designers, the installer and, most importantly, the end user.

The new design simplifies the installation process by bringing the 3-way PCB unit on board with the solenoid valve kit and combining multiple kits into one unit with 4, 6 or 8 connection ports. Not only is installing the equipment now faster and more efficient, but with the new design the system is also extremely compact, measuring only 200mm in height.

The new 3-way control box allows for multiple piping system designs incorporating different types of junctions. It can be installed after a distribution joint, before a T-branch and with a number of different control methods such as group controls, simultaneous operation under one port and group operation under one port.

Contact: Vincent Mahony,
Panasonic Ireland.
Tel: 087 – 969 4221;
email: vincent.mahony@eu.panasonic.com ■



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Ex-stock availability of HVAC pipe insulation

TIDL carries the largest stock of HVAC pipe insulation in Ireland. It comprises all the market-leading international brands, as well as a number of own-manufactured speciality product lines. It is also the most extensive by way of product type and areas of application, and caters for temperature fluctuations ranging from as low as -260°C to as high as 1400°C. Industry sectors catered for include all areas of building services, in addition to the pharmaceutical, chemical and process industries.



Christy Geraghty, Store Supervisor, Philip Mullen, HVAC insulation Manager and Anthony Horrigan, Transport Manager.

 Dublin Tel: 01 – 882 9990
Cork Tel: 021 – 496 6102
Email sales@tidl.ie

Technical support and advice

Insulation is a very sophisticated and exacting industry sector with legislation, health and safety and specialist application requirements making the specification of the correct solution a challenging process. However, consultants, facility managers and contractors alike can avail of TIDL's technical support services to solve even the most complex and demanding applications. TIDL's expertise in the area is unrivalled and represents a staggering 175 years when the collective experience of the dedicated HVAC team is combined.

ISO quality assured

TIDL's attributes and strengths have been assessed and fully accredited by the National Standards Authority of Ireland (NSAI), resulting in the award of a Certificate of Registration of Quality Management System to IS EN ISO 9001:2008. This is a major achievement and a significant mark of approval for TIDL as it covers its operation across the manufacture, sale and distribution of the entire product portfolio.

Nationwide service

TIDL provides a nationwide service when it comes to HVAC pipe insulation. Its trade counter staff in Dublin and Cork deal directly with contractors, dispensing advice and product selection guidance as well as providing ex-stock product availability. For large projects and bigger orders, TIDL has a fleet of 10 trucks on the road at all times so deliveries direct to site can be arranged to suit the construction schedule.

For further details contact Philip Mullen, TIDL HVAC Insulation Manager. Tel: 087 - 6790592; email: p.mullen@tidl.ie

Market-leading brands

TIDL carries a comprehensive portfolio of HVAC pipe insulation for every conceivable application. Virtually every brand is represented and available ex-stock. Among the market-leading names included are:

- › Armacell – Foamglas
- › Isover – Kingspan
- › Paroc – Rockwool
- › Sager – Tarecphen

www.tidl.ie



SDAR AWARDS 2016

Call for Abstracts

Short abstracts (between 100/200 words max) for entry into the SDAR Awards 2016 must be submitted by **Monday, 14 December 2015**, by email directly to Michael McDonald and/or Kevin Kelly of DIT at michael.mcdonald@dit.ie and kevin.kelly@dit.ie

The SDAR Awards is a joint initiative between CIBSE Ireland and DIT, supported by *Building Services News*, and sponsored by John Sisk & Son. The awards are unique in that they are intended to disseminate knowledge, encourage research in sustainable design of the built environment and raise the quality of innovation and evaluation of such projects. Entries are required to critically evaluate real life data, and examine both successes and challenges within leading-edge projects throughout Ireland or further

abroad. This competition is open to architects, engineers and all professionals involved in construction projects.

Now more than ever as positive signs ripple through the built environment, this unique synergy between industry and academia allows greater potential for integration of modern low-carbon technologies and low-energy design methodologies.

The SDAR Awards competition is intended to create a platform for the growth of applied research in the expanding green economy. Post-occupancy evaluations and similar critical appraisal of low-energy projects facilitate the transition from ideologically-driven innovations, sometimes offering poor value, to evidence-based applied research that proves value or identifies

weaknesses that the industry can learn from. These successes and failures help inform the professional community across all the building industry disciplines.

From the abstracts submitted by the **Monday, 14 December 2015** deadline, a shortlist will be selected by peer review, and those selected will be invited to prepare final papers by 1 February 2016.

First prize is a cheque for €1000. Candidates that present at the awards also have a chance of publishing their papers in the *SDAR Journal* – arrow.dit.ie/sdar/

Next year's final will take place in March 2016 in DIT, Bolton Street.

For further information contact: michael.mcdonald@dit.ie or kevin.kelly@dit.ie

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Let's Solve Water

Grundfos energy-saving Roadshow

When Grundfos Ireland ran a series of nationwide energy roadshows earlier this year showcasing its range of intelligent products, it wanted to ensure that customers would get maximum benefit from visiting these events.

Armed with a plethora of working models including circulators, booster pump sets and a range of controls, the Grundfos team set out to share the many benefits its pump solutions offer at the selected venues in Limerick, Galway, Cork and Dublin.

The feedback from visitors was very positive. People found the opportunity to get “hands on” with the pumps really useful. Being physically able to explore the unique functionality of the products and how they integrate into systems was helpful, not just in terms of how they work to enhance the control, management and monitoring of HVAC systems, but also to deliver maximum energy savings.

There was particular interest in the booster sets – the Grundfos Hydro Multi E and Hydro MPC – and how they maintain constant pressure, as well as the amount of information they provide on flow, pressure, temperature and energy consumption via BACnet or MODbus.

Attendees from the HSE and associated consultants were interested in the Grundfos Oxiper/Pro, a range that offers a chlorine dioxide disinfection preparation and dosing system. These units prompted lively discussions about the pros and cons of chemical or heat treatment of HWS systems as a means of combating legionella, with examples of both chemical or heat treatment on display.

One common thread from visitors was their amazement at how advanced the products were. A facilities manager from a major airport commented that before visiting the roadshow he had “replaced

like with like” but will change this and will now only replace old pumps with advanced solutions.

With promises from a university to retrofit a plantroom with energy-efficient solutions and a major hospital committing to a change programme including signing off on a booster set at the event, the whole exercise was a big success.

“With this current round of roadshows now complete”, says Liam McDermott, Grundfos Ireland Sales Manager, “the working display models are set up in the Grundfos offices in Ballymount Road, Dublin 12 as an ongoing training exhibition. This gives visitors the opportunity to see, touch and get ‘hands on’ with the products when they visit because, as we all know, seeing is believing”.

Contact: Grundfos Ireland.

Tel: 01 – 408 9800; email: info-ie@grundfos.com; www.grundfos.ie ■

Visitors comments ...

- “I didn’t realise Grundfos did flow and pressure sensors, and am amazed how readings could be displayed on the pump and Grundfos GO”;
- “Haven’t seen a product as advanced as the Hydro MPC. Really like the built-in clock function and the ability to have different set points at different times of day and the ability to record and display the consumption profile”;
- “Am amazed at how much data the pumps with variable speed drive monitor”;
- “Surprised at how evolved the energy check tool is and how much energy and money can be saved with pump upgrades”;
- “Hadn’t thought of using temperature sensors with variable speed pumps to control HWR systems”.



A section of the product display at each venue.



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The end-user of this heat-recovery unit may be eligible for the EIA-scheme. Find out about the possibilities and conditions.

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<https://arrow.tudublin.ie/bsn/vol54/iss6/1>

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Triple E Register boost for product suppliers

(ACA) programme is a tax incentive that aims to encourage companies to invest in energy saving technology. The scheme is based on the existing Capital Allowances tax structure which is referred to as the "Wear and Tear Allowance" for plant and machinery whereby companies can deduct the cost of capital equipment from their profits proportionally over a period of eight years *writes Conor Hanniffy, ACA Programme Manager (pictured).*

With the Accelerated Capital Allowance, when money is spent on energy efficient equipment products listed on the SEAI Triple E Register, a company can deduct the full cost of this equipment from its profits in the year of purchase.

The ACA benefits

- Reduced tax bill
- Increased cash flow
- Reduced energy costs
- Clear market differentiation



The scheme was first introduced in 2008 under the Finance Act. It was extended in 2011 and, more recently in 2014, for a further three years. The scheme now supports 52 technologies across 10 categories and has successfully grown to close on 14,000 products listed.

SEAI's technical advisors work with industry in developing the product eligibility criteria in considering market developments and standards in support of equipment efficiency performance.

SEAI provides two submission periods in considering new products for inclusion each year and SEAI personnel are available to assist product providers in clarifying requirements.

Key beneficiaries

Key beneficiaries of the ACA scheme include product providers such as manufacturers, distributors and agents.

Product providers submit products to the ACA Triple E Register for registration to help provide confidence and clear differentiation of product performance to the marketplace. Products listed on the ACA Triple E Register demonstrate to the market that the product is high-performing energy efficient equipment. It also provides the financial benefits offered through the ACA to clients installing the products concerned.

End-user benefits

Organisations paying corporation tax benefit from the tax relief in year one of the

purchase of the equipment. They also benefit financially from the energy efficiency of the equipment because of lower energy running costs.

Public sector procurement

Under Public Procurement Regulations introduced in 2011 (European Union Energy Efficient Public Procurement Regulations, SI 151 of 2011), public bodies, in fulfilling an exemplary role with regard to energy efficiency, are obliged to procure only equipment which is (a) listed on the Register or (b) satisfies the published SEAI energy efficiency criteria for the equipment.

Accountants/finance

Accountants managing and advising the their clients can identify the financial benefits of investing in energy efficiency equipment listed on the ACA Triple E Register in term of the tax rebate, and also the financial return on investing in energy efficiency equipment.

Architects/engineers

Engineers and other specifiers who select equipment listed on the ACA Triple E Register provide clear market differentiation of the higher energy performance and greater financial benefits such products offer, together with providing an energy efficient design.

For more information and an example of how the ACA scheme works for the benefit of all log on to www.seai.ie/aca ■

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Q-ton is an air-to-water heat pump which uses CO₂ gas as a natural refrigerant and delivers industry leading coefficient performance of 4.3* with a **minimal carbon footprint**.

Q-ton is ideal for heating water up to temperatures of **90°C**, which is suitable for a wide range of applications. With a Global Warming Potential (**GWP**) of **1** & Ozone Depletion Potential (**ODP**) of **0**, Q-ton is already future proven.



High Performance



High Efficiency



Environmentally Responsible



Easy Operation



Long-term Reliability



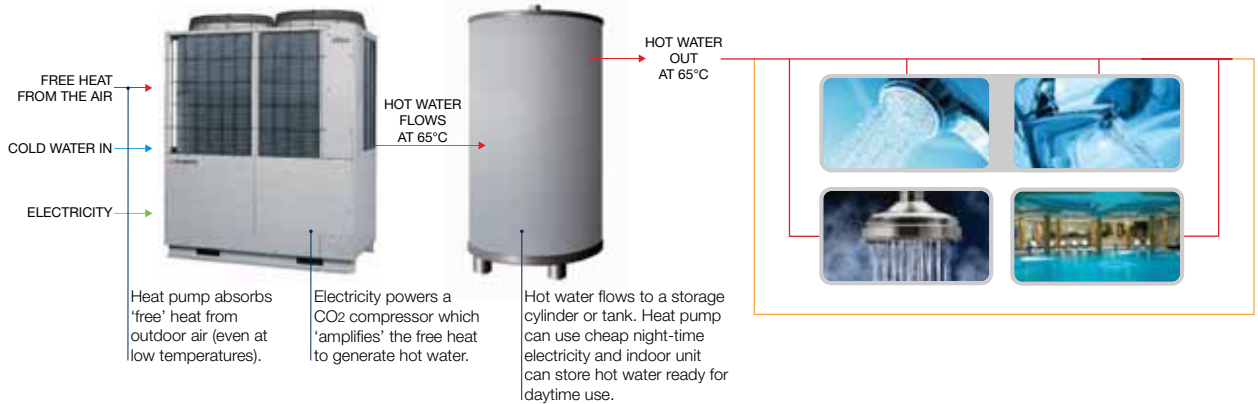
Introduction

Carbon dioxide (CO₂) hot water heat pumps are relatively new on the market and have the ability to deliver sanitary hot water at 65-90°C very efficiently. They can offer significant carbon and energy savings potential compared with hot water boilers.

Q-ton is specifically designed to transfer heat from the ambient air into a water heating system. The refrigeration system uses carbon dioxide as the working fluid. It can be used to provide sanitary hot water in a wide range of buildings.

How it works

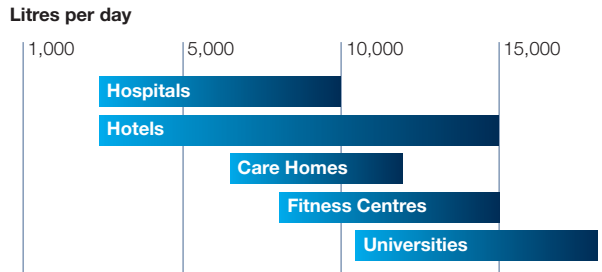
- Systems can be specified from one 30kW Q-ton unit giving 6,000 litres of hot water/day, to up to sixteen heat pump units in a modular configuration of 480kW, connected to substantial hot water storage tanks.
- Touch screen controller makes the system easy to operate.
- Hot water production and availability can be monitored via a user-friendly graphic display.



Who it's for

Q-ton is suitable for any applications using sanitary hot water in excess of 5,000L per day. Typical applications:

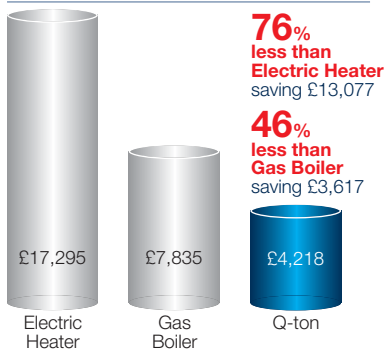
- Hospitals
- Hotels
- Care Homes
- Fitness Centres
- Universities
- Restaurants
- Laundries
- Food Industries
- Camping Sites etc.



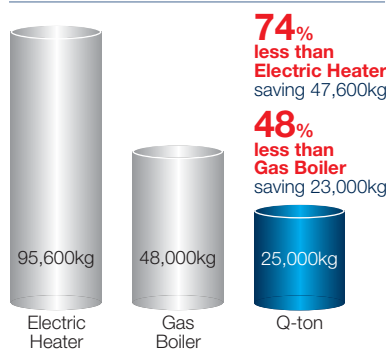
The benefits

- Substantial reductions in running cost (40-75%)
- Substantial reductions in CO₂ emissions (45-75%)
- Suitable for new build and retrofit
- No need for heating back up
- CoP of 5 (produces 5kW of energy for every 1kW of electricity)

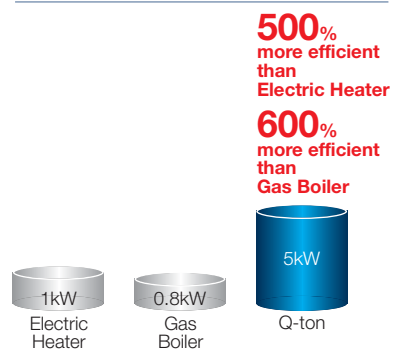
Annual running cost



Annual CO₂ emission



Energy produced per kW consumed



Operation conditions: senior care home, 80 persons, 8,000L/day, 60°C conversion



Is the spirit of BIM being scuppered by avoidant clients?

Chris Hallam is a partner at Pinsent Masons specialising in infrastructure, construction and engineering transactions. He recently posed this question on the BIM LinkedIn Group and then published an article as a consequence of the discussion that ensued. An abridged version first appeared in *Construction Manager* and *BIM Plus* but the full article is reproduced here. Those who wish to contribute further to the debate can contact Chris on Twitter Weibo: @ChrisHallamLaw;



A client recently asked me for a view on the increasing prevalence of disclaimers in tender documents with regard to the use of BIM models, notwithstanding that the client had mandated BIM use. Examples included: "Model content is not verified and cannot be relied upon for accuracy"; "BIMs are for information only and 2D graphical information (e.g. drawings, schedules and specifications) issued with the tender will take precedence".

Having given the client my view, it got me thinking. My thoughts on this were all well and good, but they were just my thoughts. Clearly there would be many different views out there. Being a fan of social media, I thought this would be a good subject to "crowd source" some responses, so I posted a question on one of the better-known BIM discussion boards.

Now, it's fair to say that I was warned about the dangers of going to the wider internet-based community with a question of this (or, indeed any) kind. "Beware the internet" I was told, "there are nutters out there" was the somewhat unkindly observation. "You may be dragged into a cyberspace discussion from which you will never return".

Of course, "what poppycock", I thought, "this is a highly-respected BIM discussion board not the *Daily Mail online*, pffft". Well, I'm pleased to say that I am not lost in the far reaches of



the internet and, despite a bit of ranting here and there, my post generated a plethora of interesting and informative comments from a wide range of contributors, including a number of the BIM *glitterati* such as engineers, architects, digital strategists, BIM managers and even some fellow lawyers.

My post asked about the use of disclaimers by clients with regard to the use of BIM models by its preferred contractor, while at the same time mandating the use of Level 2 BIM by that contractor. The overall conclusion from the discussion that followed is that it's pretty clear that not everyone agrees with everyone (or anyone) else! However, a few themes did stand out.

The disclaimers

Many of the disclaimers seem to originate from professional design practices, generally to protect against a concern that their models and information will be used for purposes for which they were not intended.

Several designers pointed out that they often "over deliver", providing information in BIM models when models are not a deliverable, or where the relevant contractual documents, protocols or execution plans are not in place, correctly pointing out that the designers are usually the first professionals involved in the construction process. This is a perfectly reasonable concern, and as one contributor, Robert Klaschka of Sumo Services noted, is "no different to stamping drawings not for construction".

That said, in the context of a project where BIM is mandated by the client, the purpose for which information can be used really ought to be covered in the BIM Execution Plan or BIM protocol. As Robert went on to say: "until the industry as a whole is willing to use information only for what it was issued, things won't change. Suggesting that parties want to protect themselves in

“ Many of the disclaimers encountered in the field seem to originate from professional design practices, generally to protect against a concern that their models and information will be used for purposes for which they were not intended.

an environment where other parties don't play by the rules is at odds with the purpose of BIM and misses the real problem.

Collaboration and co-operation require trust. The Level 2 1192 process creates an environment where you can trust other parties because fair behavior is contractual obligation. This is quite right too but, but is this happening?

The clients

This inevitably leads us to the role of the client. If the client wishes to use BIM on his project, he needs to be dealing with this stuff at the outset, so that designers do not need to caveat their documentation and everyone knows which information can be used when and for what. This is pretty much the *raison d'être* for the CIC BIM protocol. Clients need to deal with BIM use, protocols and responsibilities in their contractual arrangements at the start of a project. So, are clients doing this? The popular consensus was that they are not. Nor was it felt that there is a great deal of clarity in much of the relevant documentation used.

Note to clients – they must do better.

The contracts

The discussion then moved onto existing forms of construction and engineering contracts. One contributor noted that current forms of contract "do not cover

the use of BIM ...and vary between different team members as to what they have to deliver". This is essentially true (albeit with one notable exception in the form of the barely-used CIOB Complex Projects Contract).

Of course, and as was pointed out by Robert Klaschka in a more heated part of the discussion thread, this is "directly at odds with the BIM Task Groups statement that Level 2 process should be achievable with current contract forms supplemented by the CIC BIM Protocol". He added: "the reason it breaks down is because the controlling party, often the main contractor, chooses to make things up as he goes along rather than taking the time to understand an use the Level 2 process, resulting in the sort of "Level 2 lite" that allows the risk to be skewed in their favour and current adversarial working practice to continue". Ouch!

So, while it's true existing contracts tend not to specifically deal with BIM right now, that is not to say that they won't do in the future. Indeed, I'm aware that several of the publishers of standard forms are actively looking into ways of creating more collaborative contracts that will almost certainly include much more detail with regard to BIM. It is an inevitability of the continued and better use of BIM in the industry that contracts will need to reflect the working practices of, what is likely to be, a more collaborative and connected construction team. So that's for the future, but watch this space as change is afoot.

Finally, I can only sign off this article with the words of one of the last contributors to the discussion. Stephen Beadle of FES FM said that BIM is "a very difficult vision that will only succeed in an open and collaborative relationship from client, all contracted parties and satisfied end-users". He concluded with an almost poetic ditty: "Good luck and keep trying. Believe it, achieve it".

If that's not a mission statement, I don't know what is. ■

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T Bourke & Co was set up in 1968 to provide mechanical contracting services across the entire building services spectrum. Right from the outset the emphasis was on quality and attention to detail, a philosophy that quickly established it as one of the leading firms in the sector. It still underpins its market-leading status today and, with offices in Dublin and Limerick, guarantees nationwide coverage.

Now, known as T Bourke, the company retains the same family-led values of day one but also the same resolve and determination to deliver a professional service governed by exacting management structures. This applies no matter what the project, be it commercial, industrial, public works or pharma.

Originally established by Ted Bourke who is now company Chairman, day-to-day trading activity is run by Ted's two sons, Directors David and Niall, fellow-Director Gerry Hennessy and a team of senior managers that includes Business Development Director David Doherty. Together they are now spearheading a programme of new initiatives that will enhance still further not just the quality of the services they provide, but also their scope of application (see opposite page).

Reinforcing these strengths is a team of highly-qualified and skilled engineers whose experience is constantly supplemented by ongoing CPD programmes and training initiatives. This ensures all operatives are fully up to date with the latest product and technological innovations within the sector.

When it comes to mechanical and electrical contracting and related services, T Bourke has no equal.



Directors Niall Bourke and David Bourke with David Doherty, Business Development Director, Gerry Hennessy, Director and Ted Bourke, Chairman.

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PRODUCT REVIEW: RADIATORS

Radiators — an architect's viewpoint

In this somewhat tongue-in-cheek but nonetheless serious article on the specification and installation of radiators, architect **Sharyn Flynn** gives her view on the most common, unusual and downright contentious issues that can arise between the various parties involved in a project.



Purposefully-piped water goes back at least to the Bronze Age in the second millennium BC. In later times, hot water use was a normal part of Roman construction technology for comfort in buildings. That said, it is surprising that the implementation of this ancient technology hasn't been entirely resolved and that it is a subject most people have a position on, irrespective of working in the field of construction.

When budget is not the key consideration, why do radiators often stand out as a troubled subject for discussion? Setting aside the basic technical skill required to size up, specify and install a radiator correctly and in compliance with regulations, other factors outside the discipline of building services come into play. Unlike most mechanical plant, radiators are not confined to ceiling voids and plantrooms. Instead they are right in the field of vision (in interior design terms), and distinctly present in our awareness when they fail to operate on a wet, cold, windy day. Every member of the design and construction team could tell you a troubled story! Let's look at the situation from their respective perspectives.

Taken from an M&E viewpoint, the architect finds a "sensational radiator" and presents it to the client using masterful persuasion about the interior aesthetics, the sight lines, the furniture layout and how many options are available in the RAL colour swatch. As you roll your eyes to the ceiling, this beautiful slim, light radiator (an artwork) is "sold" to the client to complement the room decor. The problem is it doesn't necessarily provide the required heat output, carries an additional cost to re-paint, is not what the sub-contractor tendered and anyway won't arrive on time because the MC has squeezed the commissioning window! Whereas the architect may be delighted with it, only time will tell if it functions adequately for the end-user.

From a quantity surveyor's viewpoint, the architect is nearly always at fault for driving up costs and delaying the programme because of the care and control they wish to exert over the radiator selection. Anecdotally, it once led a sub-contractor to declare to an architect at a site meeting that "painting radiators lowers heat output and efficiency". Was this the same mechanical sub-contractor who "forgot" to price and plan for the colour change? It may have been included in the architect's specification but it was not co-ordinated with the M&E tender documents. The truth of the matter is that beautifully-designed radiators, which function well and complement interiors, are available in an array of colours and design shapes at competitive prices. It only requires care and attention to shop around and source the appropriate fitting in time.

The anecdotal architect's response, having not received a sales visit from a radiator supplier in 15+ years of practice, is to unashamedly "google" supplier names from cheap look-alike designed models after which a model is settled upon. High drama next ensues on site to achieve the "colour by number radiator placement" in the correct place. Then the architect's snagging begins, picking up a lack of protection during construction, carelessness in the installation, and paint drips courtesy of Mr Painter on site.

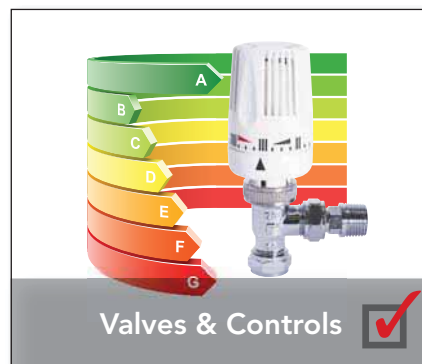
Problems with radiators discovered at snagging stage are legendary but this one is the most amazing I've come across. Before the glue had a chance to dry, the architect discovered a most cunning plan to avoid a co-ordination issue. A total of 132 perimeter radiators were fixed with 528 sawn-off bolts, glued to the vinyl floor. Yes, the radiators were actually only supported by their pipework and glue-fixed onto vinyl because the M&E coordinator on site must have been too nervous to raise the issue of bolt-fixing through the steel flange of the perimeter beam!

But so much for the architect's response, what about the

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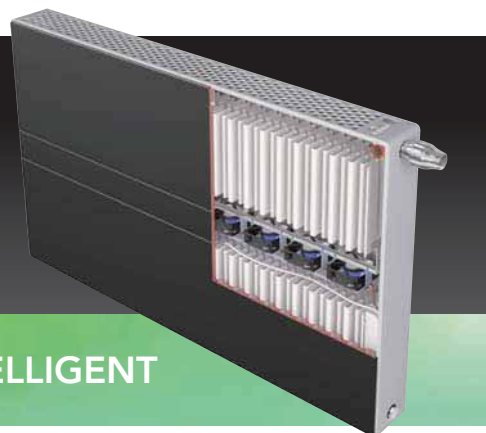
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end-user experience? Radiators can create hotspots and draughts, dry the air (especially electric storage heaters), interfere with furniture layouts and curtain lengths, become air-locked at least twice a season and are difficult to clean (we're talking fluff!). That said, they are good for drying wet washing in damp, rainy weeks or of course you can screen them with DIY store radiator covers. I accept that the profile of this end-user is probably somebody who doesn't benefit from top-of-the-range controls, remote energy management applications (as utility companies are now promoting) and anything above the minimum specification.

For those who don't always get along well with radiators, there is comfort in the move towards better-insulated houses, affordable underfloor heating and Passive Haus (now adopted by DLRCC and soon to be followed by other county councils). The traditional radiator mounted on a wall below the windowsill may lose its prominence, just as the traditional hot press disappears in a properly-insulated home. Similarly, the commercial viability of 4-port fan coil units is leading to the trend of stripping out banks of radiators and providing heating and cooling from a single source at ceiling level.

However, for the rest of us radiators will not be eliminated as long as our day-to-day heat-producing activity within the building is less than the heat loss through the building fabric, vents and chimneys. The appended list of considerations below is non-exhaustive but may prompt further thought when designing for space heating.

There are three main challenges to radiator representatives who understand the intricate links between design and performance so that they aid better coordination of the design, specification and installation. These are as follows:

- (1) Visit more architects with glossy brochures and teach them about sizing for new regulations and building standards. Leave them in a position to understand heat loss calculations and sizing of appliances for themselves. They will teach you about design and commercial trends.
- (2) Visit building services engineers, adding a new dimension to the visit. Teach them about design, colours and materials. Explain to them what architects want and check that what is tendered is correct and agreed by all designers.
- (3) Prepare CPD courses to up-skill the industry in design and installation fields.

In addition to the foregoing, all involved in the process should also consider the following.

Selection

- Consider the energy source and the environment;
- Options for heating appliances;
- Energy efficiency and COP;
- Comfort;
- Controls;

- Materials: painted mild steel, cast iron, stainless steel, flat panel aluminium and, more unusually, clear and mirrored glass (13mm thick toughened glass) and glass panel fronts;
- Budget: Installation costs v maintenance and replacement costs, warranties and lifespan, import costs, currency differences, non-standard orders and lead times, certainty of fuel costs and fluctuations when oil prices (due to demand) or resource reserves alter.

Regulations and guidelines

- Take account of protected structures and conservation;
- Building Regulations and TGD Part L: Conservation of Fuel and Energy;
- European Normative Codes: e.g. BE EN 442 European Standard for Radiators/CE Certification;
- CIBSE Guide A Environmental Design 2015 Edition;
- CIBSE Radiator Product Data Templates (PDTs);
- CIBSE Guide H Building Control Systems;
- CIBSE Guide M Maintenance Engineering and Management;

Safety

- Consider by-products and emissions from the combustion process and venting to the outside, e.g. CO from gas boilers and solid fuel boilers, CO₂ and moisture build-up, ash from solid burners, cleaning of flues and monitoring of toxic emissions;
- Potential hazards from leaks, spills and burns;
- Safety issues and requirements for LST (low surface temperature) radiators in schools, creches, hospitals and nursing homes;
- Safety of toughened glass on radiators;
- HSA Guideline: Health and Safety at Work in Residential Healthcare Facilities;
- HSA Guideline: Safety with Lead at Work.

In conclusion, radiators may be small building components but they are vital to the heating solution and deserve detailed consideration at the design, specification and installation stage. ■

Sharyn Flynn is a registered architect through the RIBA and RIAI. In 2015 she completed an Msc in Energy Management with honours and holds a qualification in Training and Education. From 2009 Sharyn lectured in Project Management, AutoCAD and Interior Design. She served as a committee member of CIBSE Ireland between 2011 and 2013, and represented CIBSE as an SEAI Sustainable Energy Awards Judge in 2011 and 2012.

Sharyn has wide experience in medical research buildings, laboratories, data centres, light industrial masterplanning, office interiors and fitouts, education and residential, with a particular interest in building energy, mechanical and electrical refurbishments and fire safety upgrades. She currently works as a Construction Project Manager.



Versatile

HEATING, COOLING & VENTILATION



Zehnder Zmart Flex Radiator

One of Europe's leading innovators in indoor climate solutions has challenged the traditional definition of flat-panel radiators with the introduction of the pioneering Zehnder Zmart Flex radiator range through Versatile.

Fundamentally different to a pressed steel panel, the Zehnder Zmart is manufactured from polybutane, a hard-wearing polymer, and comprises a network of polymer tubes configured behind a steel front casing. This truly unique and innovative radiator development is only available from Versatile.



HEATING, COOLING & VENTILATION

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(exit 9 off the M3)

Tel: 046 - 902 9444 Fax: 046 - 902 7705

email:sales@versatile.ie

<http://www.versatile.ie>

Energy System Boiler from Glow-worm

The Glow-worm Energy System boiler from C&F Quadrant is a high-quality, high-efficiency boiler made from automotive grade aluminium that makes it very easy to handle and install.

Incorporating a high-quality aluminium heat exchanger, the Energy System boiler has a modern high-impact design suited to modern homes and comes with a bright, easy-to-read, LCD display, a smart timeless case design and super-quiet running. Energy System boiler is ErP A rated and comes in an extensive range of outputs for various applications, including 12kW, 15kW, 18kW, 25kW and 30kW models.



There is also a rear flue option for siting flexibility. Energy System boilers are suitable for homes with high hot water demands and can be installed with Glow-worm's range of cylinders for hot water storage.

Feel the Energy at the heart of your business



C&F Quadrant Ltd.

Unit L40,
Cherry Orchard Industrial Estate, Dublin 10
Tel: +353-1-630 5757 Fax: +353-1-630 5715
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WHAT ... A RADIATOR MADE FROM RECYCLED PLASTIC?

Zehnder Zmart Flex is a unique and innovative radiator that combines performance, comfort and sustainability. The flat-fronted radiator is 60% lighter than conventional radiators and makes a strong impression thanks to its quick installation, easy handling and ideal eco balance. What's more, the polymer register means that the radiator is non-corrosive and its smooth white surface gives it a timeless, modern look.

Zehnder Zmart Flex has been designed to give maximum planning freedom and its lightweight but hard-wearing construction makes it easy to install and maintain. The patented 360° flexible tubes mean that one system fits all, whether for new build, renovation or refurbishment projects. The tubes connect into any valve arrangement, with the radiator brackets catering for varied locations and mountings.

Zehnder Zmart is up to 60% lighter compared to standard radiators which means that one person can lift, position and install the radiator. Transport and labour costs, install time and health risks are all reduced.

With a range of 63 sizes and heat outputs, Zehnder Zmart Flex covers virtually all requirements. The 360° connections fit all configurations and are compatible with most existing heating systems, including where valves and thermostats are to be fitted.

Compared to standard radiators, the environmental impact of Zehnder Zmart Flex is 25% lower and the carbon footprint is 8% lower. Independent validation measured the impact across manufacture, transportation, operation and recycling. Zehnder's design engineers developed Zehnder Zmart Flex with minimum environmental impact as a priority.

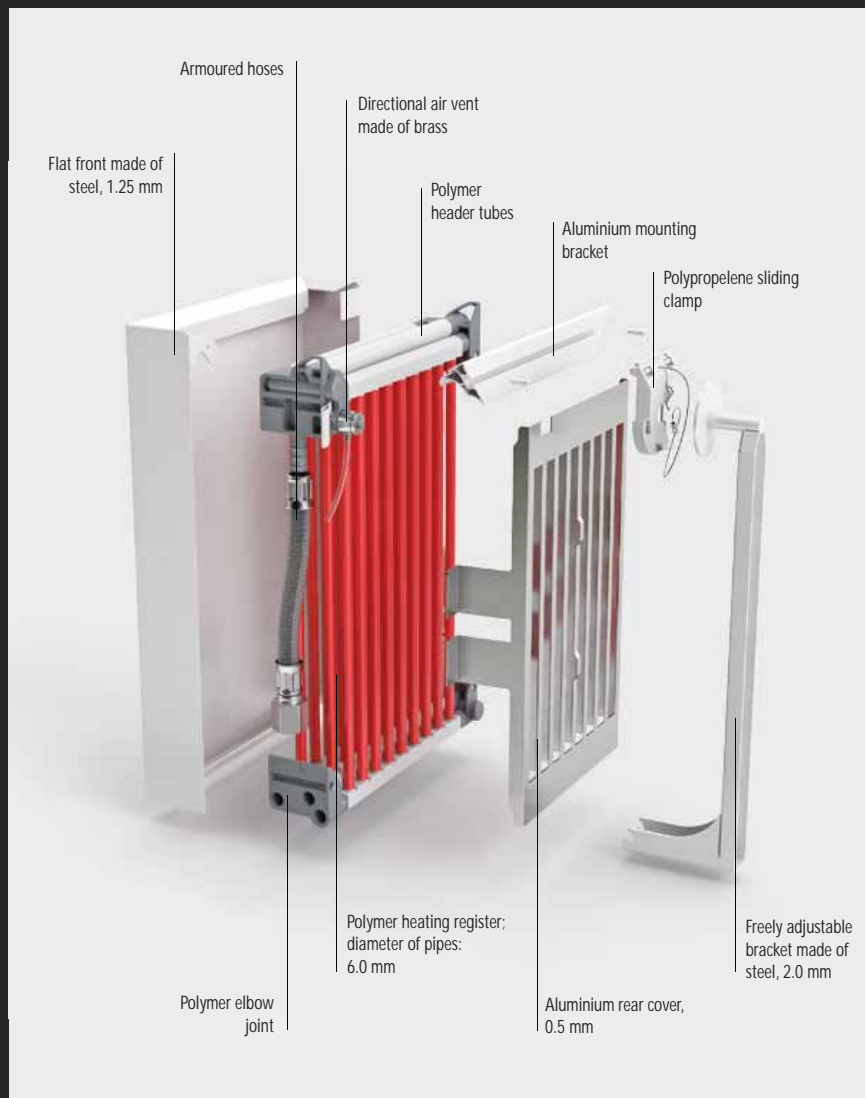
The polymer interior of Zehnder Zmart Flex cannot be corroded, even by poor-quality

system water. Zehnder Zmart comes with a 10-year warranty for its components, even if fitted into an existing system. Lab simulations demonstrate that the polybutene polymer tubes' corrosion resistance comfortably exceeds 25 years. The light weight of the radiator and its flexible connections also mean it is less likely to strain its mountings or valves and so less likely to leak over time. All non-corrosive parts are highlighted in red

The design comprises a classic, simple approach which hides its own connections. The patented 360° flexible tubes can be placed behind the radiator, making them invisible to the customer.

It marries high quality and functionality with unbeatable cost-effectiveness, timeless looks, economic operation and the minimal need for replacement.

Contact: Versatile. Tel: 046 – 902 9444; email: sales@versatile.ie; www.versatile.ie ■



Improved radiators equal improved efficiency

As an industry we've managed to convey the message to end-users that replacing a domestic heating boiler can reduce their fuel bills. However, if they don't also upgrade their radiators, they may not make the savings they are hoping for. It's high time we explained this as well, says *Vincent Broderick, Sales Director, Baxi Potterton Myson*.

A new boiler is a significant investment but very often a "distress" purchase and so unplanned for and difficult to afford. As a result, few end-users take the opportunity to overhaul their radiators at the same time. Far too many systems may have had more than one boiler update over the years, while the radiators can easily be 20 or 30 years old. These older radiators were designed for systems that used the higher system temperatures that we habitually used until a few years ago.

However, the advances in radiator design have ensured that we can now provide adequate warmth at lower temperatures, using radiators of the same or similar sizes as their forerunners. This means that replacing them causes little disruption in existing properties,

despite the lower system temperature. This lower system temperature is also the secret to delivering lower domestic fuel bills, as it allows the modern condensing boiler to operate in condensing mode.

If we replace the boiler but do not replace the radiators, the boiler will still need to run the system at a higher temperature in order to provide sufficient heat in each room. At this higher temperature the condensing boiler will not operate in condensing mode and will not, therefore, deliver the energy savings that the end user has been expecting.

If the existing radiators are very old, replacing them is also a sensible move in terms of safeguarding the new boiler. If the interiors of the old radiators are degraded and have begun to disintegrate, there is a possibility of loose material breaking off and travelling around the system. If it reaches the new boiler, a foreign body in the water flow can cause damage to the boiler and jeopardise the system.

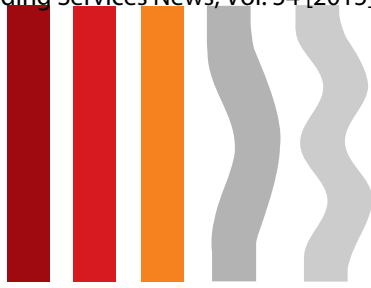
In addition, advances in radiator design have also included aesthetics. Panel radiators once all looked much the same. Now we have more decorative options such as the Myson

Décor, which is equally energy efficient but with a more chic, stylish look. Replacing the radiators can also offer the opportunity to install a vertical model in order to free up wall space for fitted storage or for repositioning free-standing furniture. Myson also has lower-profile horizontal options which allow radiators to be installed beneath a low window sill.

The highly-attractive Décor represents a considerable upgrade in terms of looks without commanding a significantly higher price. For a modest additional expenditure, the end-user can enjoy a greatly-improved aesthetic and even more practical use of their space, as well as the hoped-for significant energy savings.

As an industry we should be encouraging the end-user to review the entire system when the boiler is replaced and we should be equally prepared to explain frankly that the energy savings that they hope for may depend on this.

Contact: Baxi Potterton Myson.
Tel: 01 – 459 0870;
email: sales@potterton-myson.ie;
www.potterton-myson.ie ■



HENRAD

The Radiator

Beautiful radiators

For a copy of our new 2013 brochure and technical information on the latest commercial and residential ranges please visit our website or contact us in Dublin or Cork.

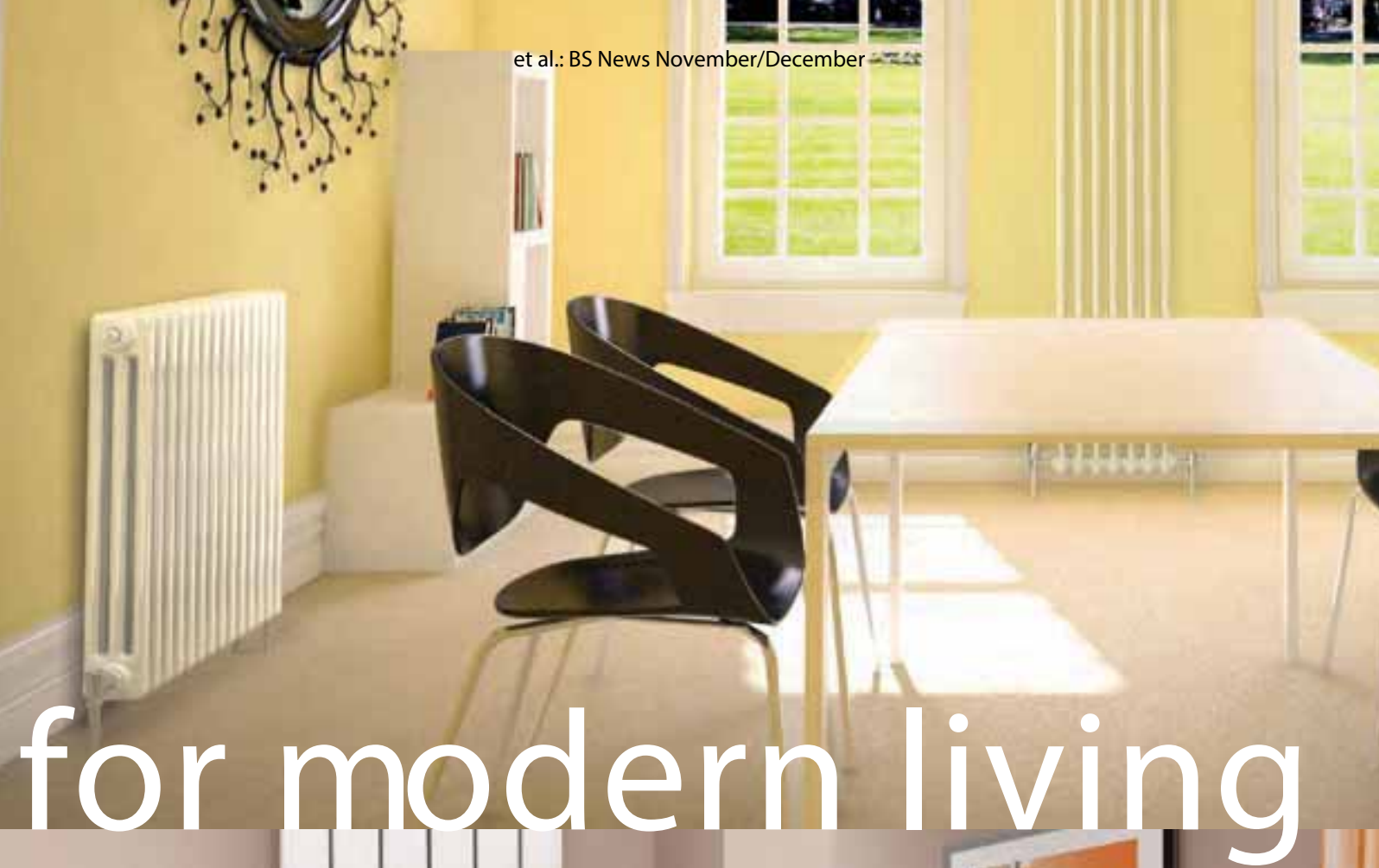
h *Hevac*



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www.hevac.ie

Henrad Radiators, part of the Ideal Stelrad Group of companies, is a major part of the Hevac heating portfolio. Renowned across the UK and mainland Europe as a leading radiator brand, Henrad radiators offer competitive solutions for both commercial and residential applications.



Henrad from Hevac – beautiful radiators for modern living

The Henrad radiator range is extensive, none more so than the Henrad Compact radiator with over 160 variants. The new decorative ranges Verona, Everest Line, Alto Line and Henrad Column all complement the popular and well-established Henrad Compact radiator. These new ranges deliver an up-market look with a modern twist, suitable for any dwelling.

Brief details of each of the ranges are as follows:

- **Verona:** Manufactured from 1.5mm thick steel, Verona offers visual appeal combined with advanced technology, while providing a contemporary solution for a huge range of applications. With a choice of four types and a variety of sizes and outputs, the Verona allows extensive flexibility of siting, while breaking new barriers in heating efficiency.
- **Column:** The most modern execution of a traditional concept, this classic style brings innovation and reliability to a high-performance design. Vertical and horizontal options offer a modern alternative to a traditional panel radiator, and will enhance both contemporary and traditional settings.

- **Everest Line:** With its flat front panel featuring pleasing horizontal lines, the Henrad Everest Line radiator offers contemporary good looks, adding a new dimension to any room.
- **Alto Line:** The Henrad Alto Line radiator incorporates all the features of the Henrad Everest Line but with a vertical line design.
- **Compact:** With a slim profile and smooth, white finish, Henrad Compact radiators will blend into any room in the house, to provide guaranteed heating performance. Contact: Garrett White, Director, Hevac. Tel: 01 – 419 1919; email: garrettwhite@hevac.ie; www.hevac.ie ■

With its flat front panel featuring horizontal lines, the Henrad Everest Line radiator offers contemporary good looks, adding a new dimension to any room.



Daikin Altherma delivers heating, cooling and domestic hot water

Daikin Altherma is a total heating and domestic hot water system with an option for cooling. Based on heat pump technology, it represents a flexible and cost-effective alternative to traditional heating systems. Its inherent energy efficiency makes it an ideal solution for reduced energy consumption and low CO2 emissions.

Altherma uses a sustainable energy source, extracting heat from the outside air. In a closed loop containing a liquid refrigerant, a thermodynamic cycle is created through evaporation, condensation, compression and expansion. This “pumps” heat from a lower to a higher temperature level. The heat gained is then transferred via a heat exchanger to the building’s central heating distribution system which can be underfloor heating, low-temperature radiators and/or fan coil units. For cooling, the system operates in reverse.

Depending on the model and conditions, a Daikin Altherma heat pump delivers about 5kWh of usable heat for every kWh of electricity it consumes. This means approximately 4/5 of the required heat is free.

According to Daikin, Altherma is up to five times more efficient than a traditional heating system based on fossil fuels or electricity, achieving a coefficient of performance (COP) rating of up to 5.04 in certain applications.

There is also an integrated solar unit that uses free energy from the sun and thus supports the production of domestic hot water. Solar energy and heat pumps complement each other ideally in this application. Depending on the customer’s needs, an un-pressurised or pressurised solar system can be offered.

Daikin’s “flow through” principle

The integrated solar unit is available in a lightweight plastic tank incorporating unique hygienic properties to protect against contamination. Thanks to Daikin’s “flow through” principle, bacteria is unable to become established so this eliminates the need for a thermal disinfectant cycle.

The solar unit can also be connected to

any secondary heat source, such as a gas boiler, to provide heating and domestic hot water. Additionally, it can be controlled by a state-of-the-art controller or a smartphone app.

Daikin Altherma units are built to withstand severe winter conditions and are suitable for new-build, retrofit and low-energy applications.

As with all the Daikin Altherma products, initial commissioning is facilitated by the configuration wizard on the controller that then shows only the relevant settings, which can be downloaded to a pc as a back-up. The controller also displays full text error messages to allow the end-user take appropriate corrective action.

The controller is combined with a temperature sensor that is installed in a location that will best allow it to monitor ambient temperatures for the control of optimal heating and cooling. Detailed information can be read from the extended menus if a service engineer needs it.

Choosing Daikin is the energy-efficient, cost-effective solution ... as well as being the best option for the environment.

Contact: John O’Shaughnessy, Daikin Ireland.
Tel: 01 – 642 3430; Mobile: 086 – 796 8649;
email: oshaughnessy.j@daikin.ie ■



Schematic depicts the HPSU compact with solar thermal solution while the inset HPSU compact shows the integral, state-of-the-art stratification store for hygienic water provision.



Professional Heat Design Solutions

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We Design Heat

Merlin Heating Distributors Ltd (MHD) is a UK-based manufacturer of heating products that has extensive experience and expertise in heating.

The core MHD-manufactured products carry the "Merlin" brand and this portfolio includes low surface temperature radiators (LST), trench convectors, radiant ceiling panels, MerCon low level plinth heaters and bespoke products for difficult applications. All products are manufactured using the finest laser-cutting machinery from Amada of Japan.

MHD supplies mechanical contractors directly on a myriad of commercial, education, health and public sector projects throughout Ireland, Northern Ireland and the UK.

Expert personnel and agents support the specification and selection of the product range, working closely with consulting engineers and architects from early design stage to on-site completion

Merlin LST

The Merlin LST range of low surface temperature radiators now offers a choice of casings designed to meet the needs of health, education and other special-needs facilities.



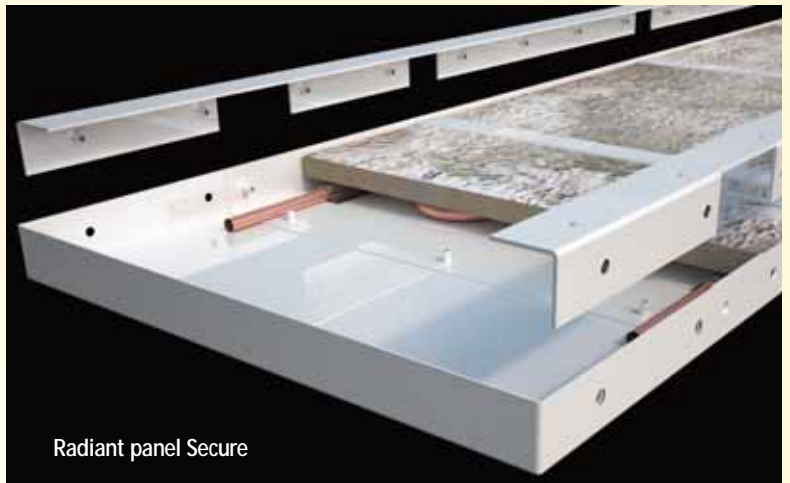
Merlin LST

The range of low water content emitters ensures that all performance needs can be achieved and enclosed in a fully-assembled casing constructed from 1.6mm mild steel. Casings can also be manufactured in 1.2mm/2.00mm or 3.00mm thickness.

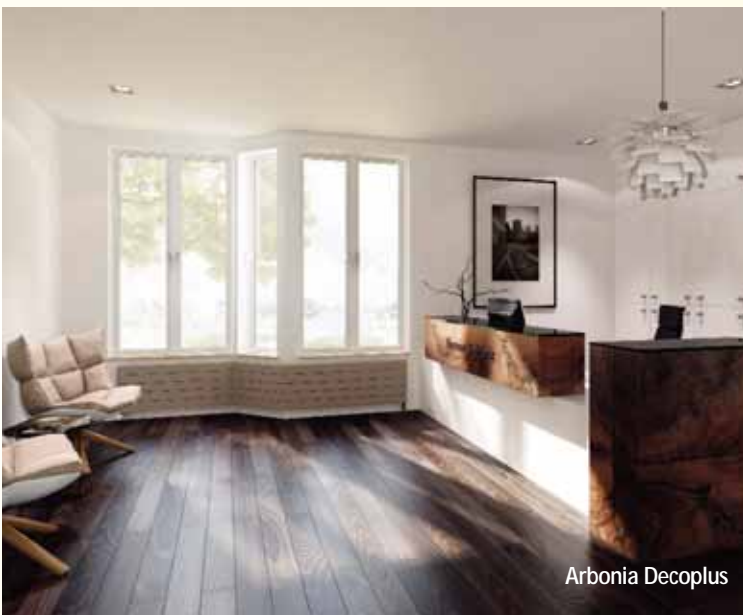
Casings can be supplied in smooth flat-fronted (Aquaplano) or lined (Aqualinea) formats in four different styles. Inlet and outlet grilles can be slotted or perforated (anti-ligature option) and are pencil-proof as standard. Cut-outs or knock-outs for valves can be provided as required at no extra cost.

Radiant Panels

The use of a fully-insulated panel ensures that the optimum radiant heat is transmitted with minimum heat loss through the panel to ceiling voids. The single hanging system, coupled with the lightweight panel (see image), affords many advantages during installation. These include reduced risk of back injury, easy manoeuvrability and easy levelling of the panel with the innovative "Zip-Lock" adjuster. Merlin has recently received NOMS approval from the MOJ for use in security environments.



Radiant panel Secure



Arbonia Decoplus

Arbonia

Arbonia is a leading brand within the AFG Group which is active in over 40 countries worldwide. The principal manufacturing plants are in Switzerland, Germany and The Czech Republic.

With different living styles and individual needs, Arbonia is well-placed to fully meet these needs from its wide range through use of its modern production and logistics, allowing maximum flexibility in shape, design or colour. Products include horizontal and vertical flat tubular radiators, multi-column radiators and low-line convectors.

Through its Kermi brand MHD can meet the needs of domestic applications with its profile and plan models. These feature the patented Therm X2 Technology that offers significant reduction in heat up times.

Trench Heating

The Arbonia Ascotherm trench heater can be supplied in natural convection or forced convection models. Grilles can be linear or roll-up in a range of materials and colours, including stainless steel. These can be pencil-proof if required.



Arbonia Ascotherm



Arbonia tube radiator

Energy saving and wireless additions from Xylem

Xylem has enhanced its range of high-efficiency commercial circulator pumps with the addition of the Lowara ecocirc XLplus model that allows end-users to wirelessly monitor and alter the pump's performance from a computer or smart device.

As with the ecocirc XL, the latest model is a large wet-rotor circulator pump complete with energy-efficient electronically-commutated permanent magnet technology. With a flow rate of up to 70m³/h and a head of up to 12md, the ecocirc XLplus is ideal for domestic, light industrial, commercial heating, cooling systems, solar systems, ground source heat pumps and secondary hot water systems.

However, the ecocirc XLplus' distinguishing factor is its wireless communication ability. With the addition of an optional built-in WiFi module, end-users can remotely monitor the pump's operating parameters and check for any warning indicators, as well as set the most appropriate control mode depending on time of day or temperature.

End-users can also alter the control modes through the use of a standard WiFi-enabled device, such as a smart phone, a tablet, laptop or PC. All of the pump's data and settings can be accessed and controlled through a standard browser installed on the device.

Sean Byrne, Field Sales Engineer at Xylem Water Solutions in Dublin says: "Following the success of both the original Lowara ecocirc and ecocirc XL, we wanted to develop a commercial circulator that could not only meet heating and cooling requirements across a broad range of applications, but offer the end-user the maximum amount of control possible.

"The ecocirc XLplus is easy to set up and commission. Its wireless capability enables it to be remotely monitored and controlled by end-users from a range of devices. Alerts can also be sent directly to the customer if any system irregularities occur, so they can be rectified as quickly as possible, to minimise any drop in system efficiency."

Also new from Xylem is a next-generation, global range of highly-efficient in-line and



Lowara ecocirc XLplus wireless model

end-suction pumps that exceed the strict 2015 European Ecodesign requirements that came into effect on 1 January 2015 (Minimum Efficiency Index > 0,4). The new Lowara e-series provides significantly-improved energy savings of up to 23%. Additionally, its expanded and optimised hydraulic coverage makes this new series suitable for a much broader range of HVAC and industrial applications.

The new series includes the e-NSC high-performance end-suction pumps, the e-LNE vertical in-line pumps, and the e-SH stainless steel end-suction pumps. These models are supplied with IE3 high-efficiency motors in accordance with the European Union motor performance standards.

For an even greater reduction in energy consumption, e-series pumps can be supplied with an optional Xylem Hydrovar variable speed drive. The motor-mounted, space-saving Hydrovar is "plug-and-play" and automatically adjusts operating speeds to optimise pumping system efficiency. As a result, it can provide up to an additional 70% reduction in energy costs depending on the application.

The Lowara e-series provides energy cost savings and enhanced reliability, with simplified specification, faster lead times and improved pre- and post-sales support. The new pumps will enable consultants, specifiers and engineers to leverage Xylem's global presence and production network, while creating customised system solutions for their customers supported by localised applications expertise.

Contact: Sales, Xylem Water Solutions.
Tel: 01 – 452 4444;
email: lowara.ireland@xylem.com;
www.lowara.ie ■



The newly-introduced Lowara e-series.

Poor indoor air quality can be attributed to many problems inside a building. Excess humidity causes dampness, rot and mould, while pollutants are known to be a major cause of damaging health issues such as asthma and eczema. Stale air is also believed to lead to a loss in productivity and low morale.

Lossnay RVX series – making a world of difference

As the demand for improved energy efficiency results in increasingly airtight buildings, natural ventilation proves less effective and drives the need for mechanical ventilation. With increasing legislation, the challenge for designers, installers and occupiers of any building is to find ventilation that's both effective and energy efficient.

Mitsubishi Electric meets this need with a range of Lossnay mechanical ventilation heat recovery (MVHR) systems designed to supply fresh air into any commercial building while simultaneously extracting stale air and, most importantly, recovering valuable heat energy for maximum efficiency.

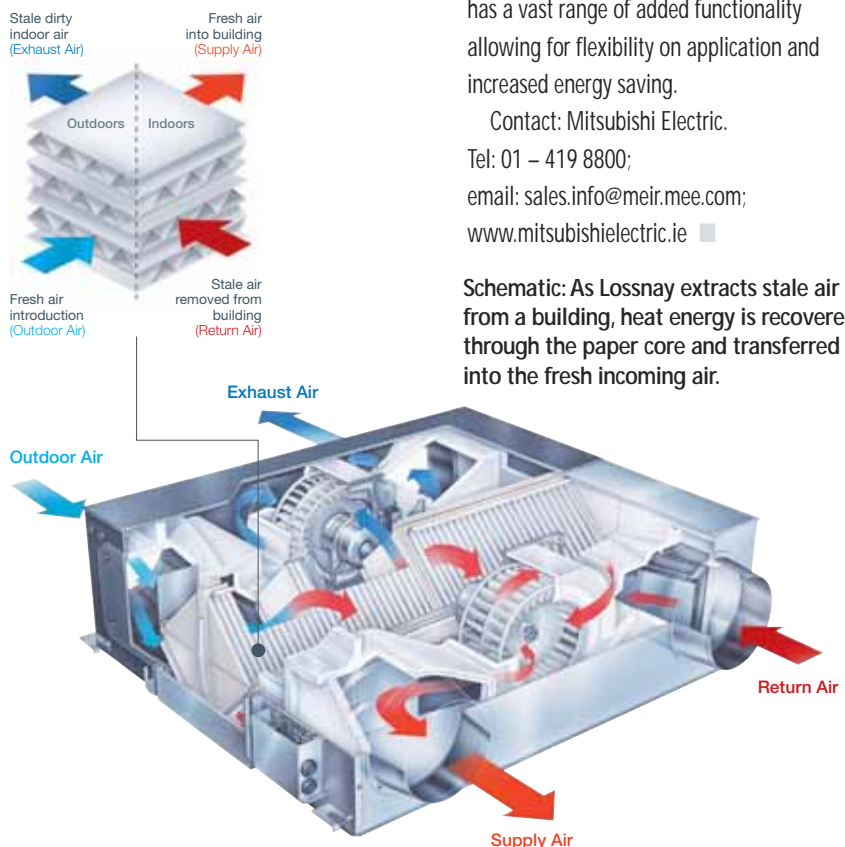
The technology behind the energy efficiency of Lossnay lies in the construction of the core which enables the exchange of both latent heat (humidity/moisture) and sensible heat (temperature) to maintain a comfortable internal environment for minimal energy consumption.

The core is made from ultra-thin paper and sits at the heart of the system. Constructed in a corrugated form and layered in alternate directions, the core allows a cross airflow to maximise heat recovery without the supply and exhaust air mixing, ensuring only fresh air is introduced into a building.

The use of ultra-thin paper enables the unit to achieve high enthalpy exchange efficiency and dramatically increases moisture permeability

while acting as a barrier against air leakage. As Lossnay extracts stale air from a building, heat energy is recovered through the paper core and transferred into the fresh incoming air.

How Lossnay works



Lossnay benefits

- Clean, fresh air;
- Improved air quality and comfort;
- Increased climate control;
- Reduced energy bills;
- Energy-efficient heat recovery;
- Significantly reduced power consumption and SFPs.

Lossnay is constantly evolving and developing, the latest addition to the range being the RVX. Main features of RVX are:

- Reduced power consumption versus RX5 models;
- Brushless DC fan motors through the range;
- Reduced SFP (specific fan power);
- Fully compliant with Part L Building Regulations for all fan speeds;
- Night purge facility;
- Connection to third party heater;
- On-board fan speed control via CO2 sensor or BMS (0-10v).

Total control

The design of the new PZ-61DR-E Lossnay controller has been unified with the PAR-531MAA air conditioning controller with a full-dot backlit LCD screen making it easy to see and use. Additionally, the new controller has a vast range of added functionality allowing for flexibility on application and increased energy saving.

Contact: Mitsubishi Electric.

Tel: 01 – 419 8800;

email: sales.info@meir.mee.com;

www.mitsubishielectric.ie

Schematic: As Lossnay extracts stale air from a building, heat energy is recovered through the paper core and transferred into the fresh incoming air.



The NEW Sentinel Kinetic Advance

Ventilation switches on to app control

Mobile Apps are thriving and can now help us control comfort in our homes. Ian Mitchell, Product Marketing Manager at Vent-Axia, explains how the innovative Sentinel Kinetic Advance is leading the way in connectivity and specification choice.

Our love affair with mobile phones and tablets has brought with it access to a raft of useful Mobile Apps. With over 3 million mobile Apps available there are plenty to choose from. And now App controlled ventilation is available bringing new connectivity to the HEVAC sector, with Vent-Axia's unique web-enabled Sentinel Kinetic Advance.

Thanks to this trailblazing product, the newest Mechanical Ventilation with Heat Recovery (MVHR) system on the market, consumers can now control their homes' indoor air quality (IAQ) via an App. For consultants and installers the system's Wi-Fi connectivity will also significantly speed up installation through simple commissioning.

Household control

For the end-user, households can use the Sentinel Kinetic Advance App via a mobile device or tablet to boost the unit, view efficiencies, speeds, flow and temperatures to enable the occupier to control their indoor air quality and set comfort options. From the maintenance perspective the Advance's web connectivity has a filter check warning which reminds households about maintenance/service requirements via email, text or App, helping to maintain good IAQ in the home. With IAQ an increasingly important issue, the Sentinel Kinetic Advance comes with filter options from F3 to F7, to ensure even homes in heavily urbanised areas can filter out impurities and help protect families from respiratory issues.

Commissioning

For consultants and installers it is the Wi-Fi-enabled App, allowing them to save a very significant amount

of time commissioning these MVHR units, which is particularly attractive. When an engineer is using a vane anemometer to measure the air flow, they can use the App to control the airflows remotely, so it is not necessary to repeatedly return to the MVHR unit to make adjustments to the fan speeds. This is a huge time saving and makes the job far simpler. The Sentinel Kinetic Advance will help to ensure systems are accurately commissioned while also saving costs.

To make installation even easier it is possible to pre-commission a unit through its USB functionality. If an engineer has already commissioned an apartment, one of many apartments of the same specification, it is possible to plug in the commissioning information from the first apartment into all of them. This significantly speeds up the commissioning process.

Performance

Although the Sentinel Kinetic Advance stands out because it is the first UK designed MVHR system available to offer web connectivity, the unit also leads the way in performance, efficiency and sound levels. With an airflow of 100l/s at 150Pa, the Advance boasts a specific fan power as low as 0.38W/l/s and offers over 90% thermal efficiency, all adding up to exceptional performance. During product development there was extensive utilisation of Computational Fluid Dynamics profiling to design highly sculpted interiors which ensure airflows are maximised through the unit minimising noise and energy use. Therefore the Advance not only has class leading specific fan power but it means that is astonishingly quiet operating at only 36dBA.



Ease of Specification

As well as leading the way in connectivity the Sentinel Kinetic Advance provides specification choice. It offers a multitude of features available in one MVHR system allowing consultants to specify the exact options they want from a menu which includes: filter grades; pre and post heaters; constant volume and constant pressure; web and Wi-Fi connectivity; integral humidistat; and multiple alternative switching options. Plus the post heating/cooling controller features both a room thermostat and a duct thermostat while here is also damper control for zoning heating, all adding up to good household comfort.

Part of Vent-Axia's Kinetic range of MVHR units, the Sentinel Kinetic Advance retains many of the series' popular features including: delay on/off; ambient response/rapid response humidistat; frost protection and digital fan speed control to 1%. Other retained features include a filter check warning; 0v to 10v proportional control; pin number control lock, and a run time indicator.

All in all the Sentinel Kinetic Advance brings the future of ventilation to households today - and with its App connectivity it marks a true advance in ventilation design.

For further information on all products and services offered by Vent-Axia contact

Barry Murphy, Sales Manager
Republic of Ireland, Vent-Axia.T: 087 124 5170
or E: barry.murphy@vent-axia.com

www.vent-axia.com

appointed as Vent-Axia's sole distributor in Ireland

UK-based Vent-Axia, leader in low carbon ventilation, is celebrating Lindab becoming its sole distributor in Ireland, which officially comes into place on 1 January 2016.

The two companies already boast a successful business relationship and have been working together in Ireland since 2002. A comprehensive range of Vent-Axia's products will now be available from Lindab, including its popular ventilation products, as well as other product types such as heating, cooling and hygiene.

Vent-Axia selected Lindab as its sole distributor since it has been impressed with Lindab's staff who are highly trained and experienced in the company's products and so are very proficient in making product selections and advising customers on the most suitable Vent-Axia solutions for their requirements. Lindab also carries extensive stock levels, to ensure customers and other distributors will receive orders quickly. Products in stock will be available for next day delivery across Ireland and same day within the Dublin and Cork areas.

"We have worked with Lindab for well over a decade now and continue to be impressed by their knowledge of our products combined with excellent customer service," said Barry Murphy, Sales Manager - Republic of Ireland at Vent-Axia. "Appointing them as our sole distributor in Ireland was a logical choice for both us and for all the customers and distributors who will be able to buy our products from Lindab. This partnership should prove beneficial for everyone."

"Lindab is very excited by the evolution of our partnership with Vent-Axia and we are looking forward to working with both new and existing customers to provide them with high quality products from Vent-Axia alongside our expertise and knowledge," said Chris Halligan, Sales Director at Lindab. "In addition, by being able to offer a fast delivery service, we'll be able to help keep projects going across Ireland."

Lindab

An international group Lindab develops, manufactures, markets and distributes products and system solutions for simplified construction and improved indoor climate. Meanwhile, Lindab Ireland provides the ventilation industry with everything from individual components to complete indoor climate solutions. It offers an unlimited range of high quality, economical and environmentally friendly ventilation solutions for residential, commercial and industrial

properties all supported by its extensive industry knowledge and technical expertise.

Vent-Axia

For almost 80 years, Vent-Axia has set the standard for ventilation. A dynamic British manufacturer, Vent-Axia is the ventilation sector's clear leader, chief innovator and forerunner in energy-saving, low carbon products. The company's innovations are now present in a wide range of landmark projects from buildings in Her Majesty's Royal Estates to the White House.

Providing the sector's most comprehensive choice from any single manufacturer, Vent-Axia's range covers not just air movement and ventilation technologies but heat recovery, electric heating, cooling and clean-air systems for residential, commercial, public sector and industrial applications.

From award-winning residential mechanical ventilation with heat recovery (MVHR) systems like Vent-Axia's Sentinel Kinetic range to residential refurbishment products ideal for social housing, such as the continuous running Lo-Carbon Centra unitary fan, Lindab can now offer Vent-Axia's solutions. From Demand Energy Recovery (D-ERV) systems like the Lo-Carbon Sentinel Totus2 for commercial applications to Vent-Axia's electric heating products Lindab will be able to offer customers a speedy and expert service.

A Strong Partnership

Forging ahead in 2016 this new distribution deal between Lindab and Vent-Axia continues to build on a strong partnership and will now offer further benefits for customers and distributors across Ireland. Lindab's expertise and swift delivery will help support customers and distributors in providing their customers with quality products in a short timescale.

For further information on all products and services offered by Vent-Axia in Ireland customers can either contact Vent-Axia or Lindab (Irl):

Vent-Axia

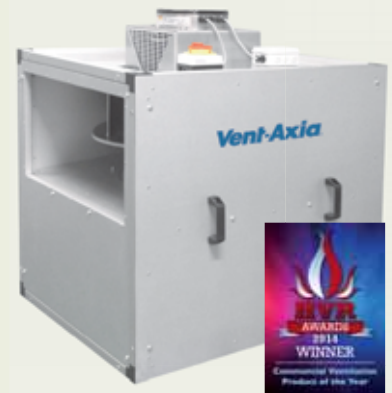
Barry Murphy, Sales Manager
Republic of Ireland, Vent-Axia.
T: 087 124 5170
E: barry.murphy@vent-axia.com

Lindab (Irl) Ltd.

Dublin Branch: Unit 2B Nangor
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Road, Dublin 12.
T: 01 456 8200
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Cork Branch: Youngline
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Togher, Co. Cork.
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Next Generation of Fans for Kitchen Ventilation

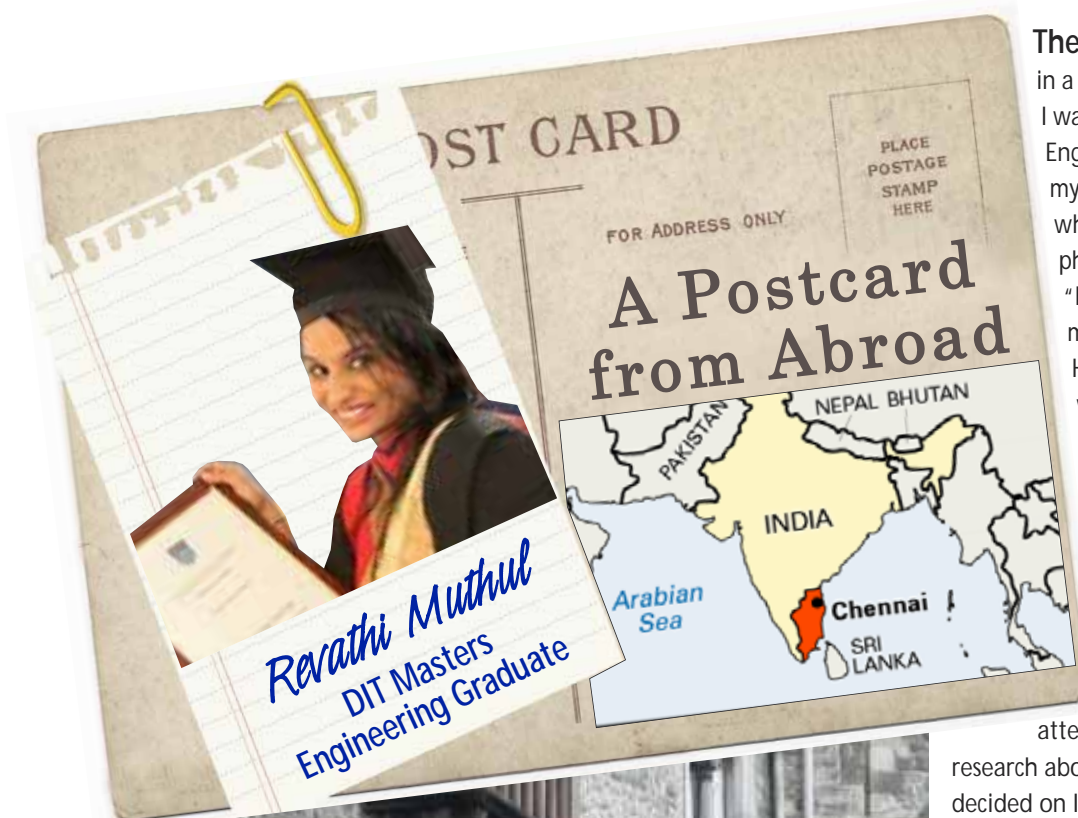


Reliable and simple to install, the Lo-Carbon™ EKF Kitchen Box Fan has been designed to offer professional kitchens a simple solution to both energy saving and regulatory compliance. The Kitchen Box Fan comfortably meets the new requirements for kitchen ventilation systems, as set out in 2013 edition of the Non Domestic Buildings Compliance Guide, which calls for kitchen ventilation systems in both new and existing buildings to have an SFP of less than 1.0W/l/s.

The Kitchen Box Fan incorporates a highly efficient long-life EC motor coupled with an efficient backward curved impeller and an integral potentiometer that provides full manual speed control. These features reduce the Kitchen Box Fan's energy and running costs by up to 44% when compared to AC motor fans with transformer speed control.

The Kitchen Box Fan is part of Vent-Axia's Lo-Carbon™ collection. The aim of the Lo-Carbon initiative is to offer the latest low carbon ventilation technology in order to reduce building energy consumption and so carbon emissions.

Vent-Axia's energy efficient Lo-Carbon Kitchen Box Fan is fully compliant for ERP2015 and also meets the new Part L Building Regulation requirements for reduced Specific Fan Power (SFP) while offering end-users a 12-month pay back when upgrading from AC motor fans.



The idea of pursuing a masters in a foreign country struck me while I was doing my Bachelors in Engineering in India. Hearing from my seniors about their experiences when they came back home or phoned, I would sit and think “how I wish I could also do my masters in a foreign country”. However, for that to happen was not as easy as it seems. When I discussed it with my parents they did not agree at all. Convincing them took a while but, eventually, everything fell into place.

That said, the confusion then was in choosing the country and college to attend. After a great deal of

research about my various options I finally decided on Ireland and DIT. I was so keen on joining DIT that I just waited until I heard from them and did not apply anywhere else. Luckily I got accepted and registered myself in DIT, Kevin Street, in the energy management course.

Like a balloon, I flew to Ireland with lots of hope and looking forward to exploring a new place. The thought of meeting different people and experiencing a different culture also excited me. I arrived in Dublin on 14 September, 2014 and so started my new life. In the beginning it was a bit difficult to adjust to the difference in climate from 35°C in Chennai to 10°C in Dublin. This was my first time away from home and of course I was homesick. But soon I realised that this was my choice and this was all I wanted and I can't be weak now. I got adjusted to everything in no time.

I was lucky in three things – college, friends and accommodation.

College

I started my classes the very next day after my arrival. My class numbered 22 and I was the youngest in my batch. I got to see peoples' interest towards learning despite of their age. I saw the passion that each of them had for learning rather than simply to get a job. It inspired me a lot.

I selected many interesting modules

Experiences of a foreign student in Ireland



regarding renewables and the professors were friendly and helpful.

The Students' Union organised many interesting programmes and events. It took a while for me to adjust to the different education system and to my new environment. In this student life, apart from academics, it was a great opportunity to learn a new culture and traditions.

Friends

I remembered a famous quote by Mark Twain who said "Good friends, good books and a sleepy conscience: this is the ideal life". This itself conveys everything. Dublin gave me loads of international friends who can walk with me throughout my life.

Accommodation

Finding accommodation in Dublin is a tough task. I found accommodation close to the city centre sharing with others from India. Though we are from the same country and different states by destiny, we got to know each other. We celebrate all Indian festivals and share our happiness.

Dublin life

People in Dublin are kind-hearted, polite and helpful. Once I got lost on my way to college and asked an old man for help, not aware that he was also new to the city like me. But he made sure that he checked on the maps for my college and guided me. That was really kind of him. I like the way people treat and respect women. Like this, there are loads of memories that are close to my heart. I have been to other counties and I personally like life in the country rather than in the city. Sports impressed me and I found a liking for sports like hiking and other activities that I had never tried back home.

Dublin helped me to improve my skills and also to recognise my hidden talents. I am planning to learn a foreign language. The year passed very quickly and it was the time to

DIT, Kevin Street where I started life in Dublin with an energy management course.



get my results. Successfully, I graduated and my dream finally came true on 17 October, 2015. My graduation ceremony was the most awaited moment of my life. I dressed in traditional attire, which is a Sarie, and the only thing missing was my parents. But the best part of the day was that I had a job in hand while I was graduating.

Career

I was impressed by this host country and decided to seek work here. Finding a job in Dublin is a bit difficult as companies have to sponsor a visa for international students. But everything depends on the efforts you put in and your own luck. I got an opportunity to work on an interesting project for a leading electrical company. I wanted to visit my family before starting my work and planned it in such a way to fly back for a period of three weeks, the very next day after my graduation.

It was such an amazing feeling to go back to India after a year away, and with a masters degree. I am the first graduate to hold a masters degree in my whole family. I felt like I achieved something in life and received a warm welcome from my entire family and

friends. The days at home passed just like that and I was pampered with full love and Mom's food. Nothing is best in the world other than having food prepared by Mom. But now it's time to fly back to Dublin and to have a new start.

Life in Dublin gave me loads of good memories to look back on and cherish. I took this opportunity to travel and explore the world without any commitment but also to study and learn new things. I recognised my independent nature of living all by myself in a new environment and adapt to diverse situations.

I would like to take this opportunity to thank my parents, friends and teachers who helped me realise my success. I remember a saying in Sanskrit – "Matha, Pitha, Guru, Deivam" (Mom, Dad, teacher, God). Mom gives birth, Dad comes second as Mom knows that he is best, and teacher comes next to parents. I follow this and respect all three of them in my life. I convey my sincere gratitude to Mr Pat who gave me an opportunity to share my experience in Ireland with the building services community and finally thanks to Dublin for giving me wonderful moments. ■

CAREL E²V 'Stepper' electronic expansion valves

The installation of electronic expansion valves (EEV) has, over the last 20 years, proven to be the most energy efficient method of improving evaporator performance when compared to mechanical counterparts. In many independent tests they can show improved temperature pull-down periods, reduced ice formation on the coils and increased system COP (coefficient of performance) over the mechanical alternative.

The earliest version of EEV operation, introduced over 25 years ago, was based on a PWM (pulse width modulation) principle and was effectively a pulsed solenoid valve with target superheat. Over the last 10 years the emergence of the new generation "Stepper" EEV has gained market share through intelligent algorithms, "Super-Cap" technology and the valve's ability to operate in a mid position as opposed to fully open or closed as with the PWM version.

Manufacturers that produce high efficiency equipment and specifically the retail sector, with their focus on overall CO²

reduction, have in many applications embraced the use of these "Stepper" controls as their preferred specification.

Continuous flow modulation

It is easy to understand how better control precision can bring advantages in terms of energy savings, control quality and the stability/safety of the entire refrigerant circuit. However, in a number of applications there have been additional system benefits experienced by the user/operator. These include:

More stable superheat control: "Stepper" EEVs can operate with lower superheat set points, thus achieving better evaporator efficiency. This results in higher evaporation pressures with associated system energy reduction;

Wider range of control: A "Stepper" EEV can respond quickly to changes in condensing/evaporation pressure and adjust to variations in load requirements. The same model of valve can work on units with different capacities and different refrigerants, making the selection and upgrade process less complicated;

Reduced vibration in the refrigerant pipework: Due to the "Stepper" valve having up to 489 step positions, the potential for liquid shock vibration transmitted through the system is reduced to a minimal level. In a worst case scenario this liquid shock can cause cracks in joints and, if the pipework is not fixed correctly for the length of run, the potential is a complete loss of refrigerant charge;

Noise: One of the most noticeable aspects of the PWM valve is the "clicking" of the armature during operation. Most people will have heard this sound coming from the refrigeration cabinets when visiting a supermarket. With a "Stepper" valve there is no noise in the installation as the motor is continuously positioning the drive spindle to regulate flow and no mechanical noise is transmitted;

Flexibility: Carel E²Vs also have real benefits for the OEM and field engineer. For instance, the same valve is suitable for a range of refrigerants and covers a wide capacity range. This is because they can operate down to 10% of their nominal capacity without any performance loss.

The compelling argument for using Carel E²V series "Stepper" valves is their superior efficiency and resulting energy savings, shown to be between 3% and 5% when compared directly to a PWM valve. That said, independently verified application tests have shown overall system savings of up to 40% compared to complete traditional mechanical systems.

Contact: Carel Ireland. Tel: 01- 835 3745; email: sales@carel.ie; www.carel.ie ■



Carel E²V series "Stepper" valves.

Wilo pump intelligence – install, connect, done!

Wilo-SiBoost Smart Helix

With up to three connections, the Wilo HiDrainLift and Wilo-HiSewLift offer unparalleled flexibility in hydraulic installation, ensuring automatic drainage and sewage disposal. They offer maximum efficiency while remaining economical, despite their high power. This way you have the perfect combination all the time.



These household solutions for removal of wastewater and sewage feature a compact design, allowing for simple, space-efficient installation including a range of flexible hydraulic connection options. A built-in active carbon filter increases user comfort by ensuring odourless operation. All models consume extremely little energy despite their high power.

Thanks to the "ready-to-plug" method, these compact lifting systems can be commissioned very quickly.

Both systems comply with Standard EN 12050-2 and European standards for electrical safety and electromagnetic compatibility.

Wilo-HiDrainLift

The Wilo-HiDrainLift is designed to remove wastewater from showers and washbasins. It comprises a ready-for-connection, automatically-switching wastewater lifting unit with built-in non-return valve and 2/3 inlet connecting pieces (depending on model). Odour-free exhaust ventilation into the installation room is implemented by means of an integrated active carbon filter.

Features include:

- Very compact construction for installation in a wet area or under the shower tray (HiDrainlift 3-24);
- Low-noise operation and installed active carbon filter for high user comfort;

- Reliable capacity and low electricity consumption for efficient wastewater disposal;
- Simple installation with flexible connection options;
- Supplied ready for connection.

Wilo-HiSewLift

By contrast, Wilo-HiSewLift models are perfect for removing sewage from a toilet through a horizontal drain. Wastewater can also be removed from a shower, washbasin or bidet, depending on the model.

Wilo-HiSewLift comprises an automatically operating small lifting unit with macerator, built-in non-return valve, active carbon filter, flexible pressure port and connection options for one toilet, as well as two or three additional drainage fixtures (depending on the model).

The small lifting unit is connected directly to one toilet basin with a horizontal connection port. The connections for additional drainage fixtures, as well as for the pressure pipe, are located on the top/side of the unit. Odour-free exhaust ventilation into the installation room is implemented by means of an integrated active carbon filter.

Features include:

- HiSewlift 3-135 in particularly narrow version (less than 149 mm width) for a simple front-wall installation;

- Low-noise operation and installed active carbon filter for high user comfort;
- Reliable capacity and low electricity consumption for efficient sewage disposal;
- Simple installation with flexible connection options.

Wilo-SiBoost Smart Helix

The Wilo-SiBoost Smart Helix VE is a highly-efficient water supply unit ready for connection (non self-priming). It comprises two to four vertically-arranged Helix VE series stainless steel high-pressure centrifugal pumps in glanded version switched in parallel. Every pump is equipped with an integrated air-cooled frequency converter, including Smart Controller SCe.

Applications include:

- Fully automatic water supply and pressure boosting in residential, commercial and public buildings, hotels, hospitals, department stores and for industrial systems;
- Pumping of drinking water, process water, cooling water, fire water (apart from fire-extinguishing systems in accordance with DIN 14462 and with the approval of the local fire safety authorities) or other types of industrial water that do not attack the materials, either chemically or mechanically, and do not contain abrasive or long-fibre constituents.

Contact: Wilo Ireland. Tel: 01 – 426 0000; email: sales@wilo.ie; www.wilo.ie ■

Ventilation – Directive 2009/125/EC to impact from 1 January 2016

On 7 July 2014 the European Commission adopted Regulation (EU) No: 1253/2014 implementing Directive 2009/125/EC with regard to the ecodesign requirements for ventilation units. It subsequently entered into force on 15 December 2014 and will be applied from 1 January 2016 onwards. The implications for the ventilation and related sectors are significant and here Austin McDermot, Core Air Conditioning – who is conducting free CPDs on the matter – outlines the main points in the regulation.

Scope

Regulation (EU) No: 1253/2014 applies to ventilation units (VUs) i.e. electricity-driven appliances equipped with at least one impeller, one motor and a casing designed to replace utilised air by outdoor air in a building or part of a building. The two main types of VUs on which the ecodesign requirements have been based are as follows:

Residential ventilation units (RVUs):

Ventilation unit where (a) the maximum flow rate does not exceed 250m³/h; (b) the maximum flow rate is between 250 and 1000m³/h, and the manufacturer declares its intended use as being exclusively for a residential ventilation application;

Non-residential ventilation units (NRVUs):

Ventilation unit where the maximum flow rate of the ventilation unit exceeds 250m³/h, where the maximum flow rate is between 250 and 1000m³/h, and where the manufacturer has not declared its intended use as being exclusively for a residential ventilation application.

Ecodesign requirements

(1) *Specific ecodesign requirements (two phases: from 1 January 2016 and from 1 January 2018).*

Specific ecodesign requirements have been determined according to the type of VUs.

Examples for RVUs

Maximum SEC (specific energy consumption), maximum sound power



Austin McDermot, Managing Director, Core Air Conditioning

level, availability of a multi-speed drive or a variable speed drive, availability of a thermal by-pass facility, availability of a visual filter change warning signal;

Examples for NRVUs

Availability of a multi-speed drive or a variable speed drive, availability of a HRS (heat recovery system), availability of a thermal by-pass facility for the HRS, minimum thermal efficiency of HRS, minimum fan efficiency, maximum internal specific fan power of ventilation components.

Methods for the calculation of these parameters are set out in Annexes VIII and IX of Regulation (EU) No: 1253/2014.

(2) *Information requirements (from 1 January 2016)*

The required product information, which is set out in Annex IV for RVUs and in Annex V for NRVUs of Regulation (EU) No: 1253/2014, shall be available:

- in the technical documentation of the product, and
- on free access websites of manufacturers, their authorised representatives, and importers.

Note: Regulation (EU) No: 1253/2014 works with Regulation (EU) No: 1254/2014 with regard to the energy labeling of residential ventilation units.

Additional information

For more details view the full text of Regulation (EU) No: 1253/2014 (Published in Official Journal of European Union L 337 of 25 November 2014) at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_2014_337_R_0002&from=FR

For a free IEI-approved CPD training module on the Ecodesign Directive 2009/125 as it applies to the ventilation sector contact: Austin McDermot, Core Air Conditioning. Tel: 01 – 409 8912; email: austin@coreac.ie



The finalists and judges pictured at the recent Irish Lighter Awards. Back Row: Stephen Robinson, Mark Reilly (winner) and Emmet Horgan. Front Row: Brian West, BDP and CIBSE with Dr Kevin Kelly, DIT, sponsor John Hughes of Astrotek and Dr Keith Sunderland, DIT.

IRISH LIGHTER AWARDS 2015

The annual Irish Lighter Awards final took place early in October with the three finalists presenting excellent papers on three very different projects. Organised and hosted by the School of Electrical and Electronic Engineering (Discipline Electrical Services Engineering) in Kevin St DIT, this is an extremely popular SLL/CIBSE Ireland research event. It is sponsored by Astrotek Technical Lighting and supported by *Building Services News*.

First prize on the night was €500 (courtesy of Astrotek) with runners up prize to the value of €250 (courtesy of CIBSE Ireland, School of Electrical and Electronic Engineering and School of Multidisciplinary Technologies). It being the International Year of Light, expectations were high and the quality of papers most definitely met these expectations, as did the delivery of the presentations on the night. Details of the winners were as follows:

Winner

Name: Mark Reilly, Arup
Project: St Mel's Cathedral Restoration: A perfect fit for modern LEDs and lighting controls

Two runner ups

Name: Stephen Robinson, Engineering Environments.
Project: The Mardyke Gardens project Cork – New external lighting/landscape project.

Name: Emmet Horgan, DIT Kevin St (BSc Student).
Project: To investigate the potential for LED street lighting technology as a sustainable energy efficient solution.

The winning paper included a detailed

overview and analysis of the opportunities and challenges engineers may face while designing such a specialised project. Interestingly, a common theme running through all three papers was the fact that LED technology appears to be the solution to most lighting requirements

The Irish Lighter Awards was devised to promote collaboration between industry and academic institutions. It was heartening this year to see that all three finalists, who were graduates of electrical services engineering, were involved with such modern, world-class projects and research.

The idea of the awards is to encourage applied research in companies and to ensure quality, value and innovation in projects. The more research papers and post-occupancy evaluations undertaken, then the better chance of more sustainable lighting design in future and existing buildings. The role of SLL and CIBSE is to facilitate this process and to disseminate the findings.

The event was opened and hosted by event organisers Colin Conway (DIT) and Michael McDonald (DIT, SLL Rol Rep and CIBSE) from the School of Electrical and Electronic Engineering, DIT Kevin Street.

The judging panel consisted of Dr Kevin Kelly (Head of School Multidisciplinary Technologies and CIBSE), Dr Keith Sunderland (Assistant Head of School Electrical and Electronic Engineering & CIBSE) and Brian West (BNP and CIBSE Ireland Vice Chairperson). ■

back issues



Real Madrid diamonds

Diamond Air's Graham McCann and Michael Clancy played a major part in the recent MHI distributor conference in Spain. However, it was not all business. Graham and Michael are both pictured here as they relax pitch-side at the famous Santiago Bernabéu Stadium.

New ATP website

ATP Ltd, the specialist heating and pipeline products supplier now heading into its fifteenth year in business, has unveiled a new and updated website at www.atpireland.com



The easy-to-use site is full of the latest products and technical information covering an expansive range of products from brands such as Flowcon, Rycroft Sill Line, ACD, SPC and Arboles.

The site also contains project references, technical downloads and instructional videos.

Footie for charity

Hevac and TubeCo ran a charity 5-a-side football tournament recently to raise funds for St James' Oncology Department. Thanks to the generous support of all involved the princely sum of €3,250.51 was raised.

In addition to the Hevac and TubeCo guys and girls who participated in the football, additional support was provided by some of both companies' customers.

Thanks to all, especially Quinn Downes and Thermodial for entering teams, Firebird for their generous donation and Office.ie, Beech Park Golf Club, Savoir Faire (Maurice Grahams), La Touché Café and V&M Dispatch for their support and for the sponsored prizes.



Give your car a cuppa!

While we're all familiar with getting an energy boost from a strong coffee, we're now told that coffee grounds could fuel our cars. Apparently, coffee grounds are excellent for producing biofuels as anything between 10% and 20% of the weight of a coffee bean is oil, most of which is retained in the coffee ground.



An added bonus is that the remaining 80% to 90% of the coffee grounds can be made into biomass pellets for burning. The process of biochemical extraction of the oil is also well established and not energy intensive.

Traditional biofuel feedstocks such as rapeseed have to be cultivated, a process that can account for 75% of the costs involved. Coffee grounds are waste and so have zero cost.

Cheers!

Daikin sponsors Lucan Sarsfields

Daikin Ireland has sponsored full sets of playing kit for the Lucan Sarsfields girls gaelic football and camogie teams. Pictured at a recent ceremony in the club to announce the sponsorship were gaelic football coach Alecia McSweeney, Liam Kirwan, Daikin Ireland and Eoghan O'Shea, camogie coach.



“Perfectly coordinating performance and efficiency ...

... that’s what I call
Pioneering for You.”

Dr. Franka Schneider, Research Engineer Fluid Mechanics
WILO SE



Improving efficiency is a key focus of our development work. Our target is to increase pump performance while simultaneously decreasing the energy input. Thus a pump or system, e.g. as a replacement, can be sized significantly smaller and yet be more efficient.

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Wilo-SiBoost Smart Helix EXCEL

THE MOST EFFICIENT SOLUTION TO REPLACING OLD R22 AIR CONDITIONING

R22
RENEWAL



Change your old air conditioning equipment to a more efficient system!

As of the 1st January 2015 it became illegal to top up or replenish a system using R22 gas. Panasonic offers a large range of R22 Renewal options with great advantages for you:

- Save time, about 50 % compared to installing new pipe work
- Save money, about 30 % compared to a brand new installation

Simple and cost effective: switch to R410A "green" refrigerant with Panasonic's R22 Renewal solution and enjoy the new Panasonic PACi, ECOi or ECO G advantages:

- Increase savings. Approximately 30% energy saving compared to R22 units
- Reduce CO₂ by over 40%.

At Panasonic we know what a great responsibility it is to install heating and cooling systems... we design systems to make your buildings work more efficiently.



PACi ECOi ECO G

For more details visit www.aircon.panasonic.ie



 INVERTER+	 ELECTRICITY	 Environmentally friendly refrigerant R410A	 HIGH COP COEFFICIENT OF PERFORMANCE	 BMS easy control CONNECTIVITY	 Possible to use on R22 pipings R22 RENEWAL
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