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BS News May/June

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Building Services news



Energy Auditing Scheme



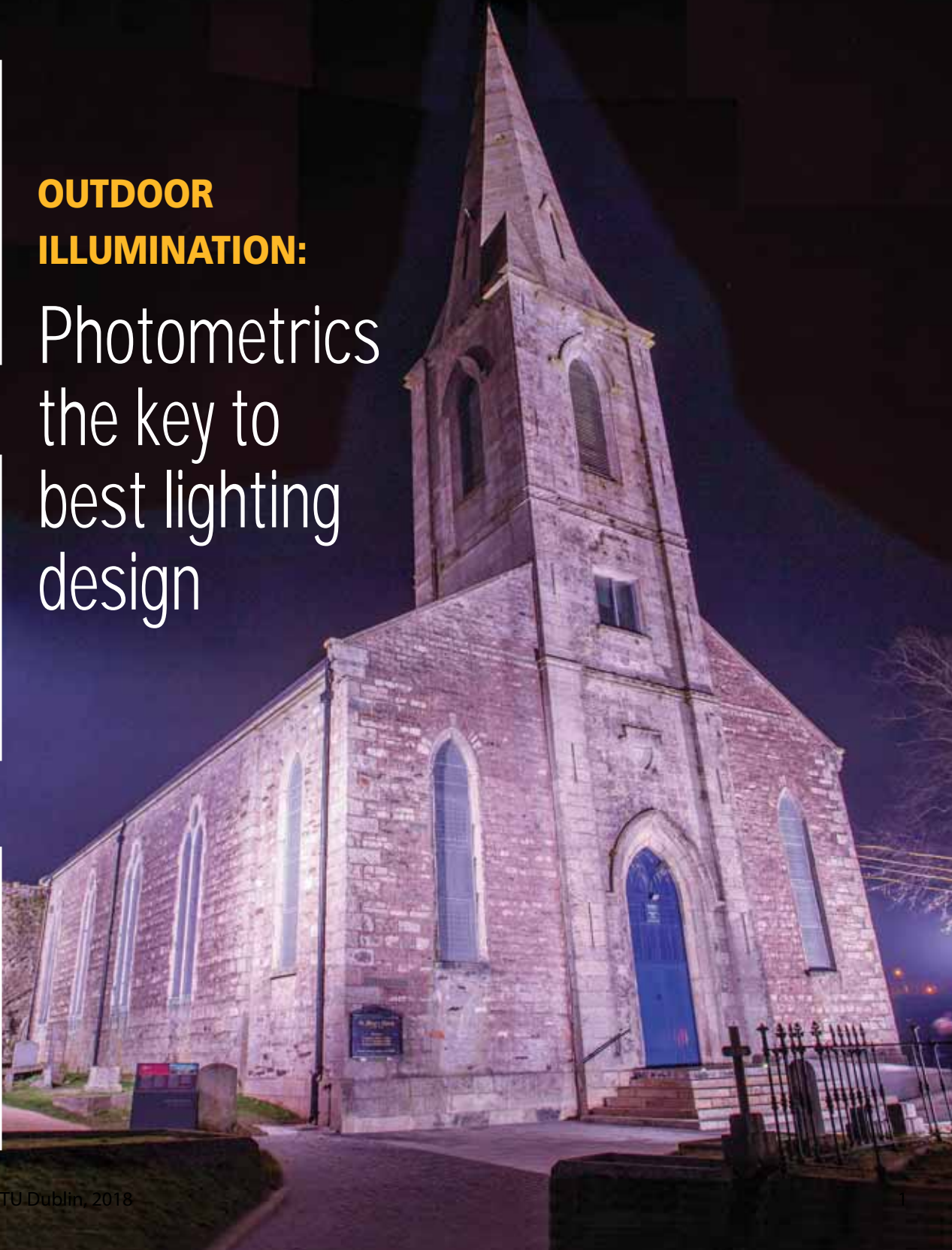
SDAR Awards Winner 2018



New WEEE Directive

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Photometrics the key to best lighting design



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Urgent industry forum needed on skills shortage

In the December 2017 issue of *Building Services News* we spoke of the imminent skills shortage being experienced across all industry sectors, and the detrimental impact it would have on building services going forward. Unfortunately, that scenario is now playing out with the consequences being felt across the entire building services spectrum.

Moreover, the pressure on existing staff complements is increasing with the working day growing longer and longer. Consequently, work for many is now a very stressful experience and that, in itself, is taking its toll with people opting out of the sector.

Something needs to be done, and urgently, to address the situation. It is time for industry figureheads to show some genuine leadership.

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NEWS AND PRODUCTS

Generation Apprenticeship competition winners

Mark Fitzgerald and Conor Cregan from the Designer Group have won the first ever Generation Apprenticeship Competition, an innovative national competition celebrating design, team-working and the problem-solving skills of Irish apprentices.



Mark Fitzgerald and Conor Cregan, Designer Group, with Richard Bruton, TD, Minister for Education & Skills.

The competition is part of the Generation Apprenticeship campaign and involved 39 teams of apprentices who were chosen as finalists. Its aim is to highlight the importance and value of apprenticeships as a route to skills development, and to highlight the strong tradition of craft-based apprenticeships in Ireland.

In addition to receiving support from the Department of Education and Skills and SOLAS, the competition was sponsored by ESB and the Construction Industry Federation.

SEAI announces €500,000 research fund

Funded by the Department of Communications, Climate Action and Environment, SEAI has announced a €500,000 fund to support cutting-edge Irish energy research, development and demonstration projects.

Companies, research organisations and public sector organisations in the Republic of Ireland can apply for up to €200,000 per project. Additional financial support is available from the European Commission.



This ERA-Net Smart Energy Systems research fund is available for proposals to develop technologies, systems and solutions to enable a resilient European energy system through interconnected renewable energy supplies.

Origen appoints Paul Begadon

Paul Begadon has moved from Hevac to sister-company Origen Energy where he is now responsible for the design, sale, installation, and maintenance of both commercial and residential energy systems including combined heat and power (CHP), heat pumps, solar systems, district heating, and mechanical heat recovery ventilation (MVHR). Origen are one of Ireland's leading suppliers to the renewable energy industry.



Paul's role with Origen entails the design, sale, installation, and maintenance of both commercial and residential energy systems including combined heat and power (CHP), heat pumps, solar systems, district heating, and mechanical heat recovery ventilation (MVHR).

Paul previously served as a heavy vehicle mechanic with the Irish Defence Forces for nine years, while also completing his degree part-time in Energy and Environmental Engineering at ITT Dublin.

Contact: Paul Begadon, Origen Energy.
Tel: 01 – 419 1919; email: paul.begadon@origen.ie

IoT dominates global automation

BSRIA research shows that growth in software and the Internet of Things (IoT) are key drivers of growth in the global building automation market. The total market for controllers (DDC, room and field controllers) as well as software and hardware is forecast to grow from approximately €6 billion in 2017 to €7 billion (in manufacturing selling prices) in 2022.

The fastest growth is projected for software used to manage and control and optimise building systems, as well as building energy management. This is forecast to grow at 10% annually, with a growing proportion of devices leaving the factory pre-fitted and ready for IP connection.

Contact: BSRIA. TEL: 0044 1344 465 540; www.bsria.co.uk



seai ENERGY SHOW 2018

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NEWS AND PRODUCTS

Holtkötter joins Well Building Institute

Mona Holtkötter recently joined the International WELL Building Institute™ (IWBI™), which is leading the movement to improve human health and well-being in buildings and communities across the world through its WELL Building Standard™ (WELL™) and WELL Community Standard™. Mona has joined the European



team at IWBI to provide technical solutions for projects aiming to achieve WELL Certification.

Coming from a building services background, Mona's focus is to integrate new health-focused design strategies with existing sustainable design practices to arrive at a holistic approach that is good for people and the planet. As one of Ireland's first WELL

APs, Mona has worked on numerous WELL projects, bringing sustainability and healthy building design under one umbrella.

WELL focuses on seven categories of building performance: air, water, nourishment, light, comfort, fitness and mind. It is grounded in evidence-based research that demonstrates the connection between the buildings where people spend approximately 90% of their time and those buildings' health and wellness impacts on those who use them. The WELL Community Standard is a district-scale rating system that takes into account the interconnectivity between buildings and their surroundings and the overall impact | on human health.

Contact: Mona Holtkötter, WELL AP, LEED AP BD+C, HPI Assessor, MCIBSE CEng. email: mona.holtkoetter@wellcertified.com

McNerney joins Heat Merchants



Michael McNerney has returned to Ireland to take up the role of Technical Design and Support Team Manager with Heat Merchants. He is based in the design and estimating office in Balbriggan, Co Dublin, from where he and the team provide a full design service. Michael is widely known and respected within the building services sector and is a former Chairman of CIBSE Ireland. He spent the last three years working in the heart of London, managing the estates office for a 7.5 acre, 600 year old heritage site called The Charterhouse. Just last year he oversaw an extensive M+E refurbishment of the project, along with the newly-constructed visitor center and museum.

RealValue energy initiative

RealValue, the €15.5 million Horizon 2020 project, has just revealed its findings following one of the largest and most diverse pilot studies involving "real" participants within the BRIDGE Horizon 2020 Smart Grid and Energy Storage projects.

Led by Glen Dimplex and driven by a consortium of 13 partner organisations from across Europe, RealValue installed smart electric thermal storage systems (SETS) in around 550 properties in Ireland, and has shown that this technology has the potential to transform how consumers use and store energy.

"Having the entire electricity value chain involved in RealValue was of the utmost importance and facilitated a 360-degree overview of the potential for smart electric thermal storage", said RealValue Project Director, Rowena McCappin.

The ability to combine smart metering with renewable technologies is a step in helping Ireland to become a more sustainable nation that uses its natural resources to fuel greener homes and communities.

See RealValue at www.realvalueproject.com



Donal Finn, Associate Professor, University College Dublin; Jonathan Sandham, Smart Networks Manager, ESB Networks; Rowena McCappin, Project Director, Glen Dimplex Heating & Ventilation; David Boundy, Director of IOT Innovation, Intel; Neil Stewart, CEO, Glen Dimplex Heating & Ventilation; Jonathan O'Sullivan, Manager Innovation, EirGrid and David Noronha, Strategy Programme Manager, SSE Airtricity.

LG appoints Hugo Lambourn

Hugo Lambourn has been appointed General Manager, Air Conditioning and Energy Solutions for the Ireland, the UK and Nordic regions by LG.

With over 30 years experience in the HVAC and construction industry, Hugo has extensive knowledge of many air conditioning and heating brands. Recent positions include Branch Director at Daikin Air Conditioning in Bristol, before becoming Managing Director of Trox in Thetford.



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BUILDING OR RETROFITTING?

Grant has it covered with
the new **VortexAir Hybrid!**

Combining the trusted attributes of the Grant Vortex condensing oil-fired boiler with the green advantage of an Aerona³ inverter driven air source heat pump (ASHP), the new Grant VortexAir is the perfect home heating solution for new builds or retrofits alike.

By using two heat sources to maximise system efficiency, the VortexAir Hybrid offers an innovative solution to homeowners when seeking a sustainable alternative to boiler replacements with minimal disruption to the home. It also helps those building a new home to meet Part L and renewable obligations as required under building regulations in the Republic of Ireland.

VortexAir

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- ✓ Heat pump always fitted externally
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- ✓ Meter ready, fully pre-plumbed and wired
- ✓ Option to manually switch between hybrid and oil
- ✓ Complies with Part L of the building regs
- ✓ Ideal for new-build and retrofit applications
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- ✓ A++ Aerona³ ASHP (6kW, 10kW and 16kW) also available as a stand-alone unit



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Heat loss calculations available for the Vortex Air and Aerona³
– contact the Grant Technical Team on **0800 0887 101**
or email heatpump@grantengineering.ie

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NEWS AND PRODUCTS

Heat Merchants €4 million investment

Heat Merchants Group has announced the creation of up to 75 new jobs in a €4 million investment programme that will see the opening of nine new Heat Merchants branches, and four additional Tubs & Tiles showrooms, over the next three years. This will increase the Group's branch network to 56 throughout the country, and its total workforce to 358. A recruitment campaign has already commenced.

Heat Merchants Group is also increasing its central distribution and business support centre in Athlone with the addition of an extra 20,000 sq ft of warehousing which will extend its capacity to service its expanded branch network.

Group Managing Director, Alan Hogan told *Building Services News*: "In responding to the changes in building regulations and legislation within the industry, and the huge advancements in technology, we recognised the need to innovate and extend the range of support services we provide. This resulted in the establishment of the Heat Merchants "Design Hub" which has a team of technical engineers and designers who offer advice on technical design, commissioning, certification, installer training and after sales support."



Alan Hogan, Group Managing Director, Heat Merchants.

Overall Achievement Award for Byrne

Gabriel Byrne, Chairman Lighting Association Ireland (LAI) and founder of the Fantasy Lights Group was presented with the Overall Achievement Award at the National Electrical Awards ceremony held in the Mansion House in Dublin recently.

Gay established Fantasy Lights in 1989 and today it is recognised as one of the leading suppliers of lighting solutions across all industry sectors. In addition to commercial and festive lighting, the Group is also a leading supplier of architectural lighting solutions under Enlighten, its professional LED division.



Gabriel Byrne, Chairman Lighting Association Ireland (LAI) and founder of the Fantasy Lights Group is presented with his award by Ian Megaghey of Platinum sponsors, WorkPal.

SEAI Sustainable Energy Awards

Details of this year's SEAI Energy Awards have now been announced and can be found at www.seai.ie/energyawards. Consultants, energy advisors, businesses, public bodies and communities who are working towards a cleaner energy future are encouraged to enter.

Entries can include any combination of electricity, heat or transport initiatives. There are nine categories to choose from – large business, small business, public sector, community, buildings, energy manager or team, and research. This includes a bursary of up to €10,000.

New to the 2018 Awards programme is the Renewable Energy Award which recognises significant achievement in the deployment at scale of renewable energy in Ireland.

Colin O'Neill joins Core AC

Colin O'Neill has joined the sales team at Core AC as an AHU Sales Engineer. A graduate of DIT Bolton Street where he studied building services, Colin has five years experience working at a multinational ventilation and heating supplier where he helped deliver several prestigious projects across Ireland.

As AHU Sales Engineer with Core AC, Colin will be responsible for the sales development of the Carrier and NovAir AHU ranges, and for growing Core AC's share in the AHU market.

Contact: Colin O'Neill, Core AC. Tel: 086 - 028 6357; email: colin@coreac.com



NEWS AND PRODUCTS

Grafton appointment

Tara Brennan has been appointed Head of Marketing & Development at Grafton Merchanting ROI, with responsibility for all the Group's brands which include Chadwicks, Heiton Buckley and The Panelling Centre.



Tara holds a degree in Marketing Management from Trinity College and a post graduate diploma in Business Studies and Information Technology from Dublin Business School.

In her new role Tara will work as part of the senior management team and oversee research, public relations, brand, trade and retail marketing activity. She will also lead the newly-refreshed customer experience programme for Grafton Merchanting's 49 stores in the Republic of Ireland.

BPM charity golf outing

This year's annual Baxi Potterton Mysons charity golf outing will take place in City West on Thursday, 6 September with tee-off times between 12pm and 2pm. Teams of three pay €150 to enter with all the proceeds going to the Alzheimer's Society of Ireland. There will be a team prize, plus awards for longest drive and nearest the pin. All will be presented at the meal in the evening.

For details contact Baxi Potterton Myson at Tel: 01 – 459 0870.

Latest from Onicon

The new Onicon System-20 BTU measurement system from IBC delivers highly-accurate and reliable thermal energy measurement in heating and cooling systems. The flexible design is suitable for a wide range of applications and is provided with multiple-output signal options.

Features include:

- Standard RS485 interface with native BACnet® MS/TP or MODBUS® RTU;
- Multiple temperature sensor options;
- Field configurable through simple user interface/display;
- Analog and pulse outputs;
- Works with water and water/glycol solutions.

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Leading air conditioning and heat pump specialists Panasonic Ireland is looking to appoint an ambitious service engineer to provide comprehensive technical support to its extensive dealer network throughout the country.

The successful candidate will be a fully-qualified service engineer with a minimum of three years field experience. The role is varied and exciting, and involves trouble-shooting, problem-solving, assistance with product selection, design advice, technical support and commissioning.

Day-to-day duties include general technical support on air conditioning and heat pump systems to distributors and project engineers in the field, and assistance in the preparation of specifications and quotations for impending projects.

Excellent terms and conditions apply.

Remuneration package is commensurate with the responsibility of the role and includes health plan, pension contributions, company car and expenses.

Please send CVs to:

vincent.mahony@eu.panasonic.com

NEWS AND PRODUCTS

Gas-fired humidifier from DriSteam

The DriSteam GTS® humidifier LX series is now available from Intelligent Building Controls (IBC). It combines the highest efficiency available in the market today with the added benefit of ultra-low NOx.

The LX series (patents pending) is the most recent addition to DriSteam's market-leading GTS gas-fired humidifier family. Steam capacities from 23 to 68 kg/hr give the LX series the flexibility to effectively manage almost any application. The LX series offers:

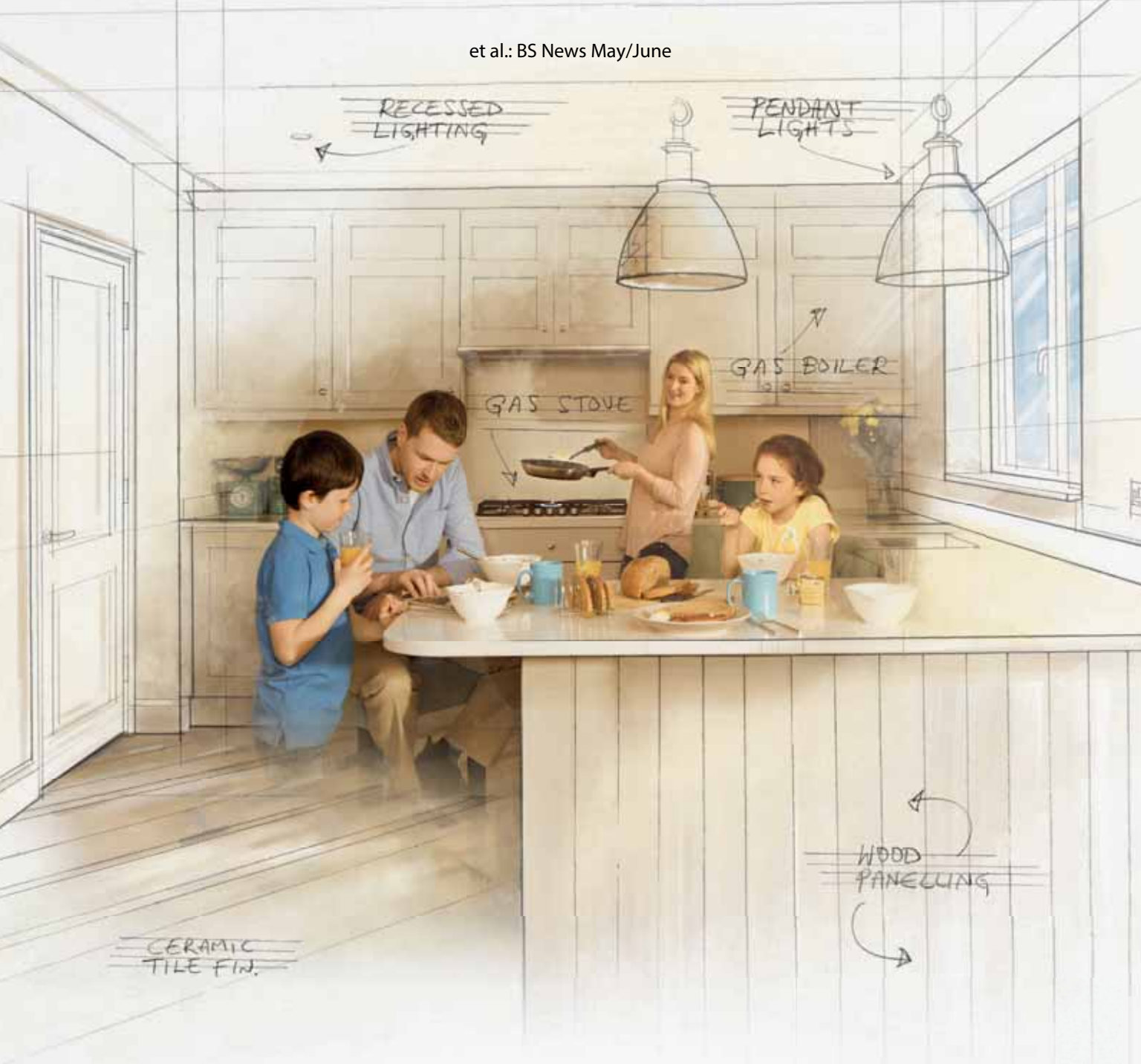
- Condensing design for highest efficiency and PP/PE venting: Saves money on energy costs with >103% combustion efficiency (LHV);
- Ultra-low NOx emissions of under 20ppm for a clean environment and to meet stringent regulations;
- Reduced installation costs: The LX series condensing technology ensures the flue temperature stays under 60°C allowing for the use of polypropylene flue piping;
- Full modulating range (20-100%) for accurate humidity control through a wide range of load conditions, giving consistent output from low to maximum demand;
- Sensing technology adjusts drain intervals automatically to conserve water, in addition to accurately measuring water tank level. The LX series humidifiers' electronic water level control manages tank filling and draining with all water types, from tap to de-ionized. This universal water control means that there is no need to change configurations based on water type when ordering equipment or retrofitting to fit new water sources in the field.
- Space-saving design for ease of installation and placement flexibility: All LX series humidifiers feature a small footprint for easy installation, with a wall mounting option for 23 kg/hr and 43 kg/hr models. A climate-controlled outdoor enclosure option is also available for installing outdoors.



Contact: Rich Costa, IBC.

Tel: 01 – 457 5421; Mobile: 085 – 125 7037;

email: rich@ibc.ie; www.ibc.ie



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Calpeda 3-phase Imat booster sets

This very tidy Calpeda 3-phase IMAT booster set was one of seven Calpeda bespoke units designed for a specific plant room. This set comprises three MXV40-806 WRAS-approved stainless steel vertical multistage pumps, each one rated for 3.0ltr/sec @ 4.5bar. Each pump on the set is fitted with an IMAT variable speed drive to ensure maximum efficiency, with the pumps only running to maintain the constant pressure that is required. As soon as the desired pressure is reached the pump goes into standby until the next time it is needed.



Calpeda's IMAT inverters have one external pressure transducer per inverter/pump as standard; cyclic change-over over lead pump to ensure even wear across the set; volt-free contacts for remote alarm; auto-restart in case of power failure; and built-in safety start (hydraulic shock protection).

Calpeda IMAT (and Easymat) inverters don't require an app, remote or a "dongle" to configure or to see what they are doing. Everything can be accessed and configured directly from the display.

Calpeda Booster Sets for Unrivalled Quality

Over the last 20 years Calpeda Pumps (Ireland) has built a strong reputation for delivering customised pump solutions to meet the requirements of all types of projects. The range is extensive and caters for all applications, with bespoke solutions a speciality, particularly when it comes to booster sets. All are manufactured at Calpeda's dedicated workshop with quality control the key focus. Every pump has a full hydraulic and mechanical test at the end of the production process while the completed booster sets are also tested to the desired operating duty prior to dispatch.

Energy saving replacement

These images illustrate another quality job carried out by one of Calpeda's distribution partners and shows the replacement of an old inefficient pressure switch controlled booster set with a new Calpeda variable speed Easymat set.

The customer is now reaping the benefit of significant energy savings and unparalleled reliability thanks to Calpeda's WRAS-approved multi-stage pumps and advanced inverters used on the cold water booster sets. Designed, manufactured and fully tested to ISO 9001, 14001 and 50001.



Urgent booster set replacement

Calpeda can provide urgent booster set replacement at very short notice.

- ✓ 1ph 2-pump sets up to 9ltr/s @ 2.5bar available next day from stock;
- ✓ ISO 9001 (14001 and 50001) approved production process;
- ✓ Delivered "plug and play".



Calpeda means 100% hydraulic test!

Something that sets Calpeda apart from other manufacturers is Calpeda's strict testing process. Every single pump and booster set produced is mechanically and hydraulically tested. In this image a MXV25-208 (vertical multistage) is being checked against the stated operating duty. Every pump undergoes a series of tests to ensure that it meets Calpeda's exacting standards to guarantee the customer that, when the pump reaches site, it works perfectly.



Easymat booster set

This image shows a recent install of a Calpeda 3-pump Easymat booster set. There are very good reasons for choosing Calpeda's Easymat variable speed drive, including:

- ✓ Non water-cooled;
- ✓ External transducer per Easymat;
- ✓ No remotes, Apps or generational changes.

Many different applications

Calpeda pumps are used for many different applications. On this bespoke purification system there is a single pump Calpeda Easymat booster set utilising WRAS-approved horizontal multi-stage pumps, an Easymat variable speed drive to control the pressure, and an AGAP tank. In fact, Calpeda works very closely with many OEMs to find solutions for moving water.

Calpeda CAT 5 Booster

This Calpeda CAT 5 booster set was designed to prevent possible contamination of water into the mains supply, while keeping a pressurised cold water supply to equipment.

Features include:

- ✓ Bronze or stainless steel pumps;
- ✓ Idromat 5 controller;
- ✓ Type AB AirGap;
- ✓ WRAS approved tank.



Calpeda Pumps Ireland Ltd

Unit 5 Old Quarry Campus
Northwest Business Park
Phase 3

Blanchardstown, D15 Y4EK

Tel: 01- 861 2200; email: info@calpedaireland.com

OBITUARY

Des Prendergast ... larger than life presence will be sorely missed

The recent and untimely death of Des Prendergast after a short illness has touched everyone involved in building services in Ireland. Des was one of those unique human beings, a larger-than-life character, with a magnetic personality and an incredible sense of mischief and fun.



He invariably had a smile on his face when you met him, an amusing quip to nonchalantly throw at you, and an incredible way of weaving golf into the conversation before you saw it coming. No matter how much you anticipated it, he still contrived to get you talking golf no matter how unrelated the situation.

He also had two other passions in life ... his wife, Gretta, and their family, and Euro Gas. Des brought the same commitment and dedication to his family life, being very much involved in their various social and sporting pursuits as they grew up. Mind you, there were times when they wished he was a bit more hands-off. His son, Sean, tells of a father-and-son tournament he and Des played in abroad one year, after which they hardly spoke for a week! He was also immensely house proud and stories of the "Duracell" Des vacuuming at 7am in the morning are legendary.

He brought this same family and supportive ethos to bear on Euro Gas. When interviewing prospective employees he looked at human traits as well as the academic or engineering qualifications required. Everyone had to fit in with the "personality" of the company and buy in to the "collective" ethos. While all had their individual roles, there were no demarcation lines when it came to prioritising objectives with everyone expected to row in, no matter what the task. That so many staff members have such long service records bears testimony to the success of this management philosophy.

Nonetheless, this gentle, warm, relaxed and open management style was matched in equal measure by a steely determination and resolve to grow the business and make it a commercial success. Euro Gas was established in 1985 with Des joining in 1988.

He also loved his football, and Fulham FC in particular. It was not uncommon for him to use football analogies to make a point. In that context he often spoke of having joined Euro Gas when it was in the Vauxhall Conference, outside of the English Football League and, how today, it now stands as a serious Champions League contender.

On the business front Des was not one for pontificating or formulating grandiose business plans yet, at the same time, everything he did by way of growth objectives and development was strategic and incisive. He had a great ability to cut to the chase to identify the kernel of a problem or challenge, and to come up with a solution.

His objective for Euro Gas was to provide customers with the highest degree of technical service and sales support.

This extended not just to the production and quality values of the products concerned, but also to system design, application of products and to the speed with which enquiries were responded to.

Des was a great business and team leader who inspired those around him. His work ethic was phenomenal and he was passionate about meeting customers face to face. His idea was "sound bites ... not megabytes". He believed in getting to know and understand clients so he could cultivate a genuine business partnership, and he applied the same principle to dealing with suppliers. He'd often repeated the mantra ... "people look after you if you look after them".

In fact, Des had a whole litany of sayings, some printable and others not! "Vino Callapso" was one of his favourites when it came to switching off, as was ordering a bottle of "Chateau Wreck the House" red. He also had a nick-name for virtually everyone he knew.

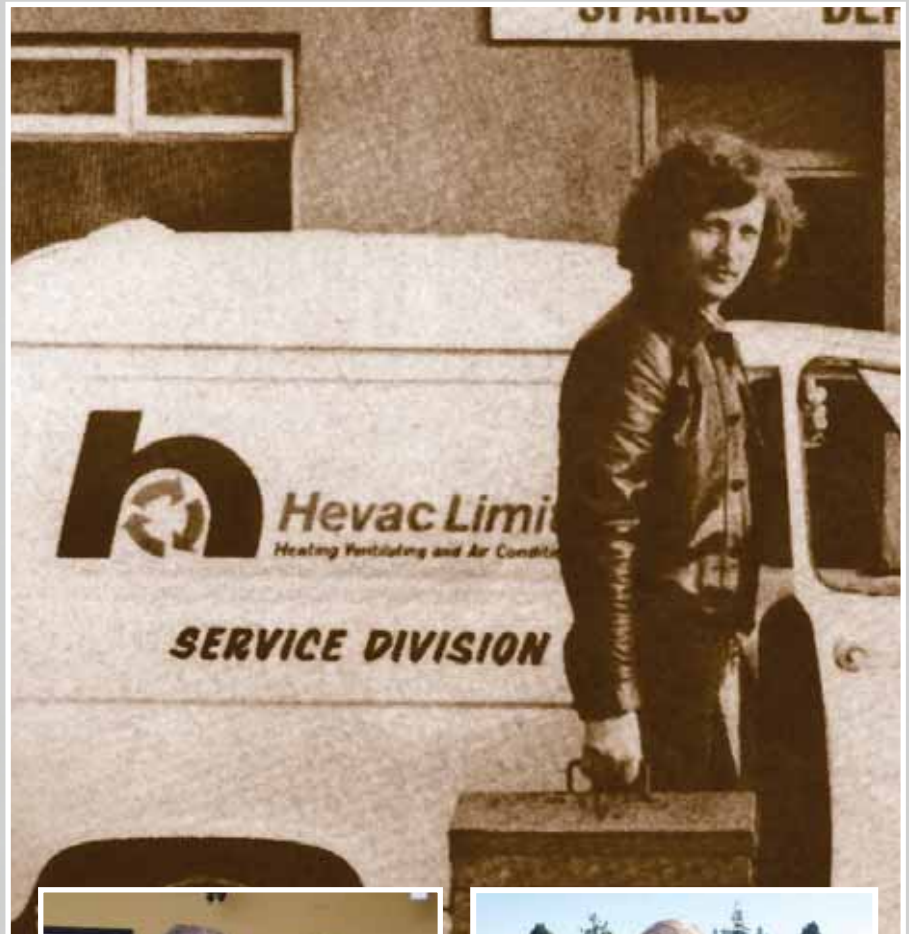
Reared in Bray, Des never strayed far from his home environment for too long. He was immensely proud to base his business in the area and contributed in all manner of ways to the well-being and betterment of the local community. He will be missed by all who came in contact with him, however briefly, such was his infectious warmth, energy and enthusiasm for life. ■

Top: This has now become an industry favourite shot of Des and is taken from a bygone era when he first joined Hevac.

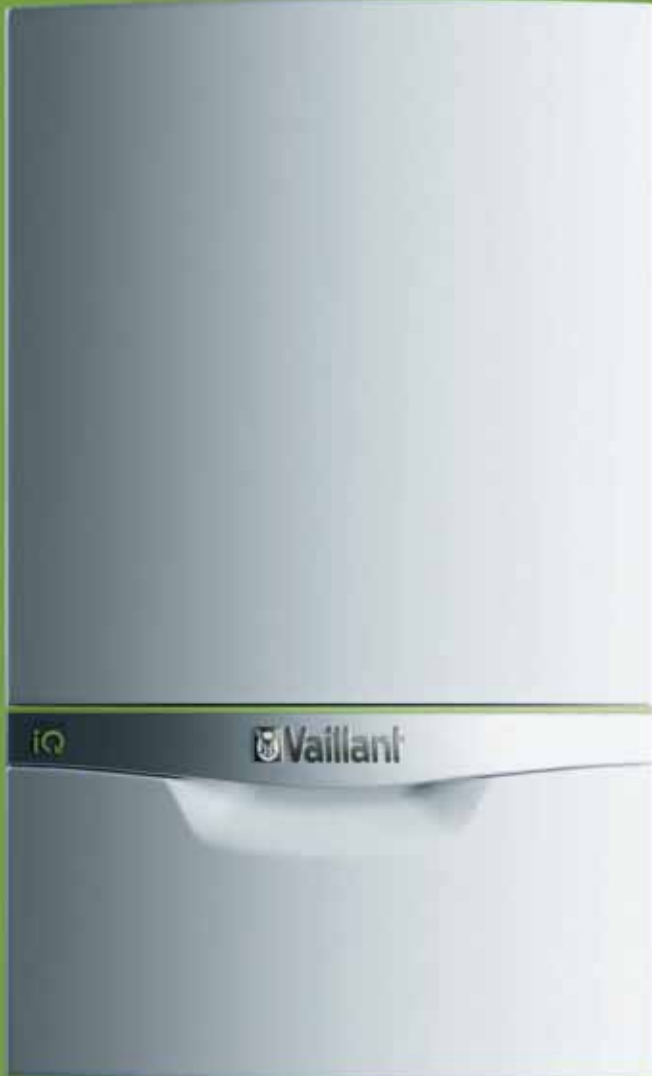
Centre left: Des and golf were synonymous and here he is receiving one of many prizes from the then BTU Captain Dave Daly.

Centre right: While Des took his golf seriously, his natural zest for life and sense of fun was always to the fore.

Bottom: Des with Desy Haughton, Brian Homan and David Pepper.



ecoTEC exclusive with Green IQ



There's smart, then
there's vSMART™

Wireless heating and hot water
control on a smartphone app.

When a vSMART™ control is added, the ecoTEC exclusive will achieve an A+ ErP rating, making it welcome in any switched-on, energy-conscious home. It's convenient, energy efficient, and saves on energy bills.

As one of Europe's leading heating technology manufacturers, "thinking ahead" is a culture which is embraced throughout our business. Our products feature high energy efficiency ratings and low emissions, and come with an enviable reputation for performance, quality and reliability. We have introduced the smart Green IQ badge to denote this benchmark for outstanding quality and it is now featured on the new

ecoTEC exclusive range which manages consumption and output to keep all its components running at peak performance for longer, and provide a low-maintenance solution. It consists of two large-output combination boilers (35kW, 43kW) with extra-condense technology, and a single-system boiler (27kW), which includes an integrated diverter valve with all delivering up to 94% efficiency.



<https://arrow.tudublin.ie/bsn/vol57/iss3/1>

Because  **Vaillant** thinks ahead.



The boilers that open more doors

ecoFIT pure

Ultra-quiet operation (Quiet Mark-approved), small footprint and total flexibility of siting (with top and rear flue options) mean that the **ecoFIT pure** range is perfect for all customer needs.

The automatic purging assistance and high-spec aluminium heat exchanger makes for a light-weight installation. High quality and high efficiency,



together with the complete availability of spare parts and the easy accessibility of the unit layout, mean the **ecoFIT pure** is also easy to maintain.

ecoTEC

The new generation Vaillant **ecoTEC** appliances are more efficient and durable than ever before, and are so compact that they fit in the smallest niche. They provide single and multi-family houses with central heating and hot water at all times. Vaillant **ecoTEC** uses an electronic gas-air mix system and operates with optimum modulation. This reduces energy



consumption and emissions, and also increases the efficiency of water heating. The integral condensation heat exchanger and the new high-efficiency pumps provide additional energy savings.

Output versions of 20/24kW, 25/30kW and 30/34kW as a mixed unit for heating and generation of domestic hot

water are available, and of 16, 24kW and 38kW as a system boiler for heating only.

Pioneering Technology



CREATING A QUALITY ENVIRONMENT

Published by ARROW@TU Dublin, 2018

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INDUSTRY CELEBRATION

CIBSE IRELAND AWARDS 2018

As 2018 marks CIBSE Ireland's 50th anniversary, the Institution has devised a new awards scheme designed to recognise, and promote, best practice in respect of the design and installation of building services. It takes in both new-build and refurbishment across commercial and industrial (non-domestic) projects.

These awards are open to the design consultant and mechanical or electrical contractor, and submissions must be a joint entry by both the consultant and contractor.

Buildings that are eligible for submission include – hospitality, leisure, health, commercial, industrial, retail, pharmaceutical, educational facilities and office buildings.

There are three categories for the CIBSE Ireland Awards, and they are sponsored respectively by Daikin, Hevac and Wilo. These are – Up to €2 million; Between €2 million and €5 million; Over €5 million. Applicants may enter only one project per category.

Projects can be located anywhere in the Republic of Ireland and entries

must be submitted by the design consultant/project engineer on behalf of the design and contracting teams.

Projects must be "practical completed" by 31 December 2017 (i.e. available for client use in January 2018) to be eligible for inclusion.

Log on to www.cibseireland.org to enter and complete as directed.

Hard copy completed submissions must be returned to CIBSE Ireland Awards, *c/o Building Services News*, Carraig Court, George's Avenue, Blackrock, Co Dublin, no later than 2pm on Friday, 27 July 2018.

The awards will be presented as part of the CIBSE Ireland 50th dinner celebrations in the Clayton Hotel, Ballsbridge, Dublin 4 on Friday, 30 November, 2018 (see panel). ■

CIBSE 50th Dinner booked out

As part of the CIBSE Ireland 50th celebrations the Institution will host a gala dinner in the Clayton Hotel, Burlington Road, Dublin 4 on Friday, 30 November. Dress code is business suit/smart casual.

This dinner will replace the annual lunch for 2018 and promises to be an even greater extravaganza with an attendance of 700 plus anticipated. As we go to press it is booked out but efforts are being made to accommodate those on the waiting list.



The programme for the evening will commence with the CIBSE Ireland welcome reception sponsored by Mitsubishi Electric Ireland at 6pm.

This will be followed by dinner, some very brief addresses, the presentation of the CIBSE Ireland Awards, and entertainment by Mario Rosenstock.

Networking will continue within the ballroom and the dedicated private bar area well into the late/early hours with music by the Velvet Tones.



Left: Pictured at the announcement of the CIBSE Ireland Awards were (front row): David Doherty, T Bourke and CIBSE Ireland Committee; Paul Martin, SEAI and CIBSE Ireland Chair; Michael O'Herlihy, Wilo Ireland; and Damien Flynn, Axiseng and Vice-Chair, CIBSE Ireland; (second row): Pat Lehane, CIBSE Ireland Committee and Publisher/Editor, *Building Services News*; Derek Elton, Wilo Ireland and Kieran McCarthy, Daikin Ireland; (third row) Karl Carrick and Garrett White, Hevac; (back row): Richard Sherlock, Mitsubishi Electric, John Valentine, Daikin Ireland and Fergus Daly, Mitsubishi Electric.

THE BEST HOMES ARE GRUNDFOS HOMES

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PRESSURE BOOSTING



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Premium quality brass shower pumps and boosters



CMB
Reliable, basic whole house water booster



SCALA2
Perfect water pressure - for up to 3 floors and 8 taps

HOT WATER RECIRCULATION



COMFORT
Provides hot water instantly to save water and energy

WASTE WATER



SOLOLIFT2
Reliable, quiet macerators - easy to install and service

be think innovate

seai ENERGY SHOW

The vibrancy of the energy sector and the pace of innovation in new energy-saving technologies were the predominant features at the recent SEAI Energy Show in the RDS. Just over 4,200 visitors representing senior industry players and key decision-makers passed through the doors over the two-day event, where they engaged in serious debate and in-depth discussions with highly-qualified, knowledgeable stand personnel.

Overall SEAI Product of Show Award – Winner: Derek Elton, Wilo Ireland with Majella Kelleher, SEAI.

SEAI Energy Show 2018 attracts 4200 visitors to the RDS



Best Renewable Product – Winner: David Doherty, judging panel with Richard Sherlock, Mitsubishi Electric and Majella Kelleher, SEAI.

The Energy Show is not merely an exhibition but more an all-embracing forum that includes product displays, seminars, workshops, retrofit skills demonstrations, best practice guidance on regulation compliance, networking opportunities with international markets, and the Product of the Show Awards. The industry's revival and new found sense of confidence was very much evident throughout the two days,

and augurs extremely well for the coming 12 months.

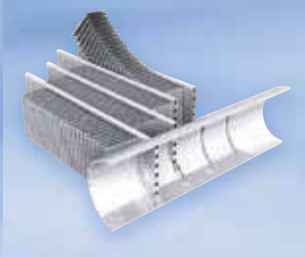
One of the event highlights is always the Product of the Show Awards and this year the principal theme across all entries was innovation. Central to this innovation was the Wilo Stratos-Maxo pump which won the "Overall Product of Show Award" and "Best Innovative Product".

Paul Martin, Programme Manager at SEAI and Chairperson of the CIBSE Ireland branch chaired the judging panel. He commented: "These Awards have championed innovative product developments, especially those incorporating smart energy solutions, for many years. Considerable investment in R&D, coupled with rapidly-changing technology, have seen a wave of pioneering products and systems featured at the show. The winners all share a passion for a clean energy future and provide commerce, industry and consumers alike with many exciting new products and systems that will help Ireland in the future to use less, and cleaner, energy".

See results and photographic round-up over coming pages.



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THIRD GENERATION OF "W" SHAPE NOVATION® MICRO CHANNEL HEAT EXCHANGERS

- Exclusive Carrier design
- Increased reliability with new aluminium alloy
- Significantly reduces refrigerant charge (-40% vs cu/al coils)
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- Exclusive Carrier design
- 10 languages available: DE, EN, ES, FR, IT, NL, PT, TR, TU + one additional customer choice
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- Provide smart data based on intelligent algorithms
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FLOODED SHELL AND TUBE EVAPORATOR

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- Exclusive Carrier design
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VARIABLE-SPEED DUAL PUMPS WITH AC MOTOR

- Dual pumps designed for variable speed operation
- High-efficient AC motor
- Low pressure (~100 kPa) or high static pressure (~190 kPa) available
- Three pump control modes available: constant water flow with two speeds, variable water flow based on constant delta T or constant delta P
- Compatibility of chillers for variable primary flow operation



LATEST GENERATION CARRIER VARIABLE SPEED 06Z TWIN SCREW COMPRESSOR WITH AC MOTOR

- Exclusive Carrier design
- Twin screw compressor designed for variable speed operation
- High-efficiency AC motor
- Stepless variable speed control (0%-100%)
- Integrated check valve for quiet shut down
- Air cooled inverter drive for increased reliability
- Bearing life exceeding 100,000 hours

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Dublin 12
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Best Energy Efficient Product – Winner: Joe Durkan, judging panel with Sean McManus and Tony Lyons, Origen Energy.



Best Lighting Product – Winner: Colm Egan, Frank Keohane and Martin Cross of Litho Circuits with Majella Kelleher, SEAI.



Best Services Provider – Winner: John Kane, judging panel with Darragh Genockey of GoCar and Majella Kelleher, SEAI.



Best Innovative Product – Winner: Derek Elton and Michael O’Herlihy of Wilo Ireland with Majella Kelleher, SEAI.



Best Product of the Future – Winner: Aidan McDermott and Gerry Lynch, Easi. Also **Best Lighting Product – Commended.**



Best Energy Efficient – Commended: Liam McDermott, Grundfos Ireland with Paul Martin, judging panel.



Best Lighting Product – Commended: Frank Keohane and Martin Cross, Litho Circuits with Majella Kelleher, SEAI.



Best Energy Efficient – Highly Commended: John Kane, judging panel with Richard Sherlock, Mitsubishi Electric and Majella Kelleher, SEAI.

Award Winners

Overall Winner

Wilo Ireland – Wilo Stratos-Maxo.

Best Energy Efficient Product

Winner: Origen Ireland – EC Power-XRGI micro.

Highly Commended:

Mitsubishi Electric – R32 Hybrid City-Multi (HVRF);

Heat Merchants – Prime Hybrid battery storage;

Daikin – Altherma 3 Heat Pump.

Commended: Xylem Water

Solutions Ireland – Flygt Concertor;

Grundfos – Grundfos Magna3.

Best Innovative Product

Winner: Wilo Ireland – Wilo Stratos-Maxo.

Highly Commended:

Heat Merchants – Prime Hybrid battery storage.

Commended: NRG Awareness –

NRG Zone heating control system;

Xylem Water Solutions Ireland – Xylem Hydroinfinity.

Best Services Provider

Winner: GoCar – GoCar car sharing.

Highly Commended: Lightsource

BP – Ireland’s first ground-based solar power station at Belfast International Airport.

Commended: Ecological Building

Systems – One-day Intensive nZEB course.

Best Renewable Product

Winner: Mitsubishi Electric – Ecodan CO2 Heat Pump;

Highly Commended: Daikin – Altherma 3 Heat Pump;

Joule – Victorium Exhaust Air Heat Pump.

Best Product of the Future

Winner: Easi – Easi EWindow.

Commended: Passive Sills – Passive Sill.

Best Lighting Product

Winner: Litho Circuits – LED SOX-20-28-32;

Commended: Easi – Easi EWindow; Litho Circuits – LED High Bay UF150DR.



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Ventilation fire protection offering a safe indoor climate

- ✓ Fire Dampers
- ✓ Fire Smoke Dampers
- ✓ Control and Commissioning of FSDs
- ✓ Smoke Extract Fans
- ✓ Car Park Ventilation
- ✓ Single compartment fire duct

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Published by ARROW@TU Dublin, 2018





Best Energy Efficient – Highly Commended: Alan Hogan and Dan Lambert, Heat Merchants with Majella Kelleher, SEAI. Also Best Innovative Product – Highly Commended.



Best Energy Efficient – Commended: John Kane, judging panel with Kevin Devine and Aoife Rochem, Xylem. Also Best Innovative Product – Highly Commended.



Best Renewable Product – Highly Commended: Darren Sweeney and Eoin Naughton, Joule with Majella Kelleher, SEAI.



Best Energy Efficient – Highly Commended: David Doherty, judging panel with Ian Killoch, Daikin and Majella Kelleher, SEAI. Also Best Renewable Product Highly Commended.



Best Services Provider – Commended: Niall Crossan, Mark McKelvey and Darren O’Gorman, Ecological Building Systems.



Best Services Provider – Highly Commended: Zosia Riesner and Beckie Braham, Lightsource BP.



Best Product of the Future – Commended: David Doherty, judging panel with Pat Beausang, Passive Sills and Majella Kelleher, SEAI.



Best Innovative Product – Commended: Joe Durkan, judging panel with David Rea and Harry Rea, NRG and Majella Kelleher, SEAI.

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*Free gas boiler training is only available to RGI registered engineers.



SDAR AWARDS 2018

Right: 2018 winner Mona Holtkötter of the International WELL Building Institute and Secretary of CIBSE Ireland



CIBSE SDAR Awards 2018 winners

DIT Bolton St was the venue recently for an intimate audience who gathered to witness the eight annual SDAR Awards final organised and hosted by the School of Electrical and the Electronic Engineering and School of Multidisciplinary Technologies. This awards scheme is one of two significant CIBSE Ireland applied research events intended to disseminate best practice in innovation and evaluation. It is sponsored by Sisk & Son and supported by *Building Services News*.



Seated: Padraic O'Connor, Sisk & Son with Tommy Shannon, Excel Industries; Mona Holtkötter, International WELL Building Institute; Camila D'Bastiani, DIT and Dr Kevin Kelly, Head of the School of Multidisciplinary Technologies and Vice-President, CIBSE. Standing: Michael McDonald, School of Electrical and Electronic Engineering, DIT and CIBSE Ireland with Charles Dunn, CIBSE Ireland; Dr Avril Behan, DIT and Gerry Farrelly, DIT.

The SDAR awards promote collaboration between industry and academic institutions. The idea is to encourage applied research and ensure quality and value in innovation projects. The more research papers and post-occupancy evaluations undertaken, the more sustainable design and energy efficacy in future and existing buildings can be encouraged.

The role of CIBSE in this regard is to facilitate this process and disseminate the findings. The event was opened by Dr Kevin Kelly, Head of the School of Multidisciplinary Technologies and Vice-President, CIBSE, and Michael McDonald. Michael is the event organiser, a member of the CIBSE Ireland Committee and a lecturer at the School of Electrical and Electronic Engineering.

The expert judging panel consisted of Gerry Farrelly and Dr Avril Behan, DIT and Charles Dunn, RPS and CIBSE Committee.

First prize went to Mona Holtkötter of the International WELL Building Institute and Secretary of CIBSE Ireland. Mona's research on the potential impact of the updated Building Regulations Part L on current building design strategies, using a Dublin city centre office building as an example, was a narrow but deserved winner following her excellent presentation. The title of the paper was *The new Irish Building Regulations Part L 2017: the impact on city centre developments*. Padraic O'Connor, Building Services Department Manager at Sisk & Son, presented her with a cheque for €1000.

The two runners up (in no particular order) were as follows.

- *Influence of the biogas generated on the mixing of UASB bioreactors: Comparison of CFD and experiential results* by Camila D'Bastiani of DIT (Ph.D. Researcher);
- *A case study into the integration of technological and engineering innovations in a manufacturing/distribution facility to support a sustainable future* by Tommy Shannon of Excel Industries. They each received €250 courtesy of CIBSE Ireland, the School of Electrical and Electronic Engineering and the School of Multidisciplinary Technologies.

Lighter/Young Lighter competition

The second upcoming major event is the CIBSE Irish Lighter/Young Lighter competition. This is well established as a premier national and international lighting competition, and will be accepting abstracts from mid-June.

Contact michael.mcdonald@dit.ie or kevin.kelly@dit.ie ■

Podium position again for Grundfos Magna3

Once again this year the Grundfos MAGNA3 received the accolades of the SEAI judging panel in the SEAI Energy Show Product of the Show Awards. This award adds to the growing list of similar industry awards dedicated to this innovative and most energy efficient pump in the circulator class.



The journey began before its launch in 2012, with Grundfos identifying the need for truly innovative technologies and functionality. With such commitment and belief in the need to challenge, change and shape the pump industry, the world's largest pump producer invested over €120 million in what was known as the Red Wolf project. The result was the Grundfos Magna3.

"Indeed, the seeds for the development of MAGNA3 were sown as far back as 1991 with Grundfos demonstrating true innovation and market leadership by introducing the world's

first circulator pump with an integrated variable speed drive", says Liam McDermott, Sales Director, Grundfos Ireland. "This set an industry trend with most manufacturers eventually following suit and embracing the pioneering Grundfos lead technology and helping to save millions upon millions of kilowatt hours globally".

On the introduction of the MAGNA3 in 2012 the accolades rolled in with awards being granted in national and international trade and

energy shows in Denmark, Germany, the UK, the USA and Italy. According to those who judged the entries, the MAGNA3 represents a significant contribution to the industry, pioneering the reduction of energy consumption in a pump category that is otherwise known for its prodigious consumption of energy. The consensus of opinion across all judging panels is that the MAGNA3 consolidates Grundfos as a company that translates its focus on innovation, sustainability and design into action.

Another key focus with MAGNA3 is user-friendliness in connection with installation, setting and monitoring, a feature which is reinforced and supported by interaction between the pump and, for example, smartphones and tablets.

With almost four million Grundfos MAGNA3 units installed in heating and cooling systems since 2012, it has proved an invaluable investment for Grundfos. Today designers and installers demand the innovative features that were unique to Grundfos, such as Smart Phone Connectivity, Heat Energy Monitors, AUTOADAPT®, FLOWLIMIT, Constant Temperature and Pressure Control, Intuitive Work Logs, simple BMS connectivity and Grundfos Remote Monitoring.

"Maybe now as we approach the latter half of the decade", says Liam McDermott, "it's time for this intelligent pump technology to become the norm, and for designers and installers to insist on the innovative and energy saving technologies offered by MAGNA3 technologies".

Contact: Grundfos Ireland.

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

Liam McDermott, Sales Director, Grundfos Ireland receiving the award at the recent SEAI Energy Show from Paul Martin, Chairman of the judging panel



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Smart control with b@home

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Smart control at home without the internet



Optional programmable time clock

Control and monitor heat/cooling systems on your home network via LAN/WLAN (no internet connection required)

The b@home system can be easily operated and programmed on a home network, without an internet connection. All data and configuration parameters are stored locally on the b@home gateway.

The b@home system can also be used at any time, independent of the b@home app, smartphones and tablets.



Once registration has been completed in the b@home portal, the system can be operated and programmed at any time, from any location, via the internet.

The b@home portal is secure and no information is passed on to third parties. The system is fully functional on a local network, even if the internet fails or is not present.

Pier-to-pier technology ensures all transmissions are secure and zero interference

Intelligent solutions for intelligent buildings

Smart control from any location via the internet



Wireless Thermostat

Wireless battery-powered thermostat with set point adjust.

- Uses standard AAA alkaline batteries, expected battery life 2-3 years
- Can be used to control single and multiple controllers
- Up to 50m range
- Can be controlled via the "b@home" app or as a radio system



Control and monitor heat/cooling systems at any time and from any location via the internet

Radiator Actuator

Wireless battery-powered radiator actuator.

- Uses standard AAA alkaline batteries, expected battery life 2-3 years
- M30x1.5 mm thread fits directly onto most standard radiator valves
- Used to isolate individual rooms, saving money by not heating unoccupied rooms
- Fully controllable by the "b@home" app or as a radio system



Wireless Controller

4-channel (16Zone) wireless controller.

- Supports up to 16 zones for manifolds and zone valves
- Eight channel (32-zone) version available
- Battery powered set-up
- In-built pump module
- Can be used to control a diverse range of equipment



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 email: info@manotherm.ie

Ventilation fire protection from Lindab Protect

A fire in a building can cause extensive damage to a property. However, the threat to human life is the greatest risk of all. Safe and reliable ventilation fire protection products ensure that damage and personal injury are minimised, or prevented.

The Lindab Protect range is a complete suite of products used in the fire protection area of ventilation. This range comprises its long-established fire and smoke dampers, along with turnkey control system.

Smoke extract fans and accessories are emergency rated up to 400°C/2Hrs. Car park ventilation packages for fume and emergency smoke extract are also available as a turnkey solution. Additionally, CFD analysis, sensors, control panels and system commissioning is provided by Lindab. Design assistance is also offered.

The suite is completed by Lindab's single compartment smoke control ducting.

Fire and smoke dampers

Lindab fire dampers help prevent the spreading of fire and smoke from one compartment to another through the ventilation system. These are tested and CE marked according to European standards EN15650, EN1366-2 and EN13501-3.

The fire dampers are equipped with an external test and reset mechanism that allows for easy drop testing, while the fire smoke dampers come fitted with Belimo and Siemens spring/return actuators that are fully addressable with the Lindab control panel.

Smoke extract fans

Lindab has an extensive range of smoke extract fans, including centrifugal, and axial, for roof, in-line or wall mounting. This range of smoke extract fans has been tested in the harshest of conditions, with ratings up to 400°C/2Hrs, and are classified in accordance with EU standards.

Smoke control ducting

The Lindab smoke control ducting system for single compartments is CE marked and fully tested for two hours at a temperature of 600°C at a positive pressure of +500Pa and negative pressure of -1500Pa, in both horizontal and vertical installations (E600 120 [ve - ho] S1500 single), according to the following standards: EN13501-4, EN1366-9 and EN12101-7.

Car park ventilation

Lindab has extensive experience in car park ventilation solutions having completed numerous prestigious projects in the recent past.

Full design assistance, along with verification through CFD analysis, is available in hours.

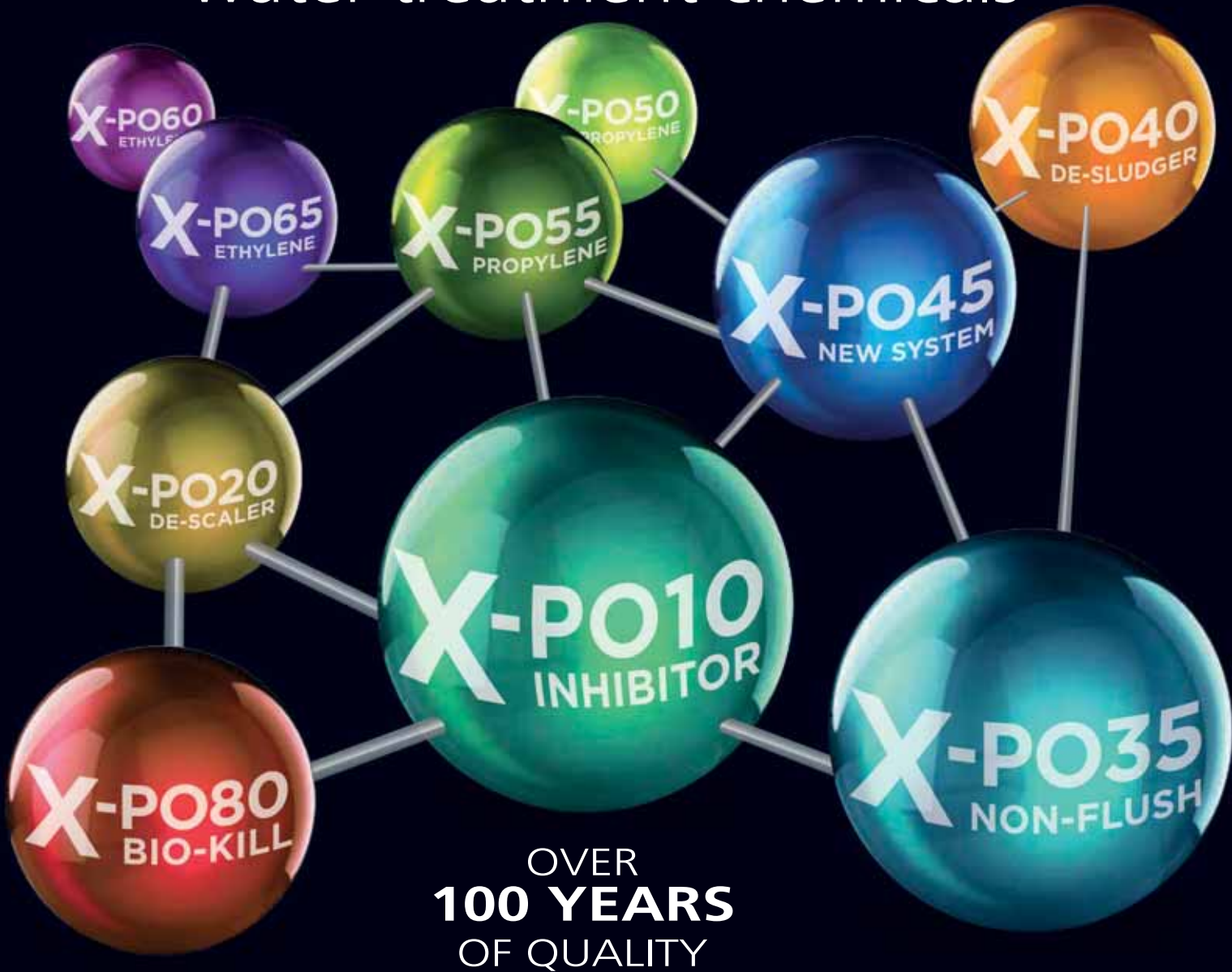
Contact: Lindab (Irl).
Tel: 01 - 1 456 8200;
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X-PO® RANGE

The complete spectrum of water treatment chemicals



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Published by ARROW@TU Dublin, 2018



BSS (Ireland) Ltd.

Incorporating Pegler & Loudon Ireland 31

BOSS water treatment chemicals

The BOSS™ X-PO® range of system inhibitors, treatment agents and disinfectants from BSS Ireland is specifically designed to meet stringent energy and water-saving protocols, as well as system protection and chemical safety requirements for the modern building industry. It covers the complete spectrum of water treatment chemicals and represents over 100 years of experience in the sector.

The X-PO range focuses on providing a full, one-stop range of chemicals, jointly meeting all the hygiene and system protection needs of any size heating, chilling or condenser water system. X-PO seeks to eliminate energy and water wastage wherever possible, making it the most economic option on the market.

BOSS's expert team of chemists and application experts, in conjunction with international technology partners, has forged unique product technologies, such as the "Non-Flush" system cleaners and the industry's lowest dilution concentrations, ensuring every litre of X-PO chemicals dilutes further than any other product on the market.

Products in the X-PO range comply with all relevant regulations and are sanctioned for use by leading boiler and heating system manufacturers.

Why system inhibitors?

When combined with the BOSS™ X-PO® range of side stream filtration and dosing units, the X-PO® range brings increased system life, greater efficiency, less mechanical breakdowns and added value engineering.

Mains water contains dissolved oxygen and when combined with bare metal components causes these components to corrode rapidly, forming pitting and scarring. This releases abrasive flakes of rust or corrosion debris into the circulating stream which mixes with limescale and forms a damaging sludge. These fast-moving particles tend to further erode the components of the system or settle out in low flow areas. They can be particularly harmful to pump shaft seals, causing them to ultimately fail.

Another problem is limescale in hard water areas. Calcium carbonate crystals collect around boiler heat exchangers and inside piping, forming a rock-hard layer and creating cold spots, preventing proper heat distribution.

In cooling systems or switched-off heating systems, the dark wet environment forms a perfect incubation area for pseudomonas and other bacteria. Biofouling and corrosion occur in several stages. Slime-forming bacteria adhere to these surfaces and begin to colonise and excrete an exopolymer, thus allowing other bacteria to attach and grow exponentially.

These quickly form a complex lattice structure which then starts to block orifice plates and the pipework itself. The X-PO range of chemicals is formulated to jointly combat all of these problems, offering shock treatments for old systems, passivation for new systems, as well as preventative measures to prolong system efficiency.

Contact: BSS Ireland.

Tel: 01 – 416 5100;



The BOSS range of system inhibitors, treatment agents and disinfectants tackles all of the above common problem areas.

Carrier AquaForce® most efficient, intelligent and compact variable- speed screw chiller

Core Air Conditioning has announced the availability of the AquaForce® Vision 30KAV with Greenspeed intelligence, Carrier's new range of variable-speed screw chillers. They have first-phase cooling capacities ranging from 500kW up to 1100kW and reach exceptional levels of seasonal efficiency.

Carrier's AquaForce Vision 30KAV achieves outstanding energy performance. Equipped with variable-speed screw compressors and variable-speed fans – AC as standard and EC as an option – as well as optional variable-speed pumps, Carrier's AquaForce® Vision 30KAV automatically adjusts the cooling capacity and water flow to perfectly match the needs of the building or process load variations. The result is optimal operation at both full load and part load.

This new range of chillers has a SEER of up to 5.5 in cooling mode and an Energy Efficiency Ratio (EER) of up to 3.49 at full load. In addition, the 30KAV offers energy efficiency up to 40% higher than the 30GX range with the same footprint.

"Carrier's engineers have developed state-of-the-art technologies that now exceed the European Ecodesign Energy Performance Standards by 30% and are already fully compliant with the 2021 Ecodesign regulations", says Steve Wood of Core AC. "Essentially, AquaForce® Vision 30KAV sets a new benchmark for efficiency, compactness and intelligence".

Operating at external temperatures ranging from -20°C up to 55°C and

negative water temperatures, 30KAV is an ideal solution for a wide range of applications. From large-scale office buildings, hotels and healthcare facilities to data centres and industrial projects, 30KAV meets the most demanding expectations in terms of energy efficiency and savings, whatever the climate.

The cutting-edge technologies now incorporated in the AquaForce® Vision 30KAV range include:

- Introduction of the latest cutting-edge Carrier technologies;
- A new 06Z variable-speed screw compressor;
- The sixth generation of Flying Bird® fan with EC motor;
- The third generation of Novation® micro channel heat exchangers with a unique W coil design built in one single piece.

The AquaForce® Vision 30KAV also features Touch Pilot® control with a colour touch-screen user interface in 10 languages and functions. These include Carrier's smart energy monitoring to provide customers with smart data and to optimise energy savings under real conditions. Furthermore, the 30KAV can be connected to Carrier's remote monitoring centres where Carrier engineers can analyse data and optimise chiller performance.

With sound levels of only 90 dB(A) during operation, this new range has particularly low sound levels compared to its previous generation.

The AquaForce® Vision PUREtec™ 30KAV-ZE version, designed exclusively for ultra-low global warming potential (GWP) refrigerant HFO R-1234ze, will be available later this year.

The range will also be extended up to 1800kW cooling capacity with premium technologies and additional options.

Contact: Steve Wood, CoreAC. Tel: 01 – 409 8912; Mobile: 086 – 380 3882; email: steve@coreac.com ■

The AquaForce® Vision 30KAV with Greenspeed™ intelligence is Carrier's most efficient, intelligent and compact variable-speed screw chiller.





How to meet Part F Regulations ... because indoor air quality matters

In this special Q&A format presentation Tristan Healy, residential ventilation specialist at Soler and Palau Ventilation Ireland, discusses the proposed changes to TGD Part F (ventilation) of the Building Regulations, and offers solutions around critical areas of concern to meet the new requirements. The proposed changes are due for release later this year but, in the meantime, the TGD F 2018 document is available for public consultation. Visit: www.housing.gov.ie/housing.

Why the changes in the first place?

A revision of the current TGD F document for ventilation and TGD L for energy and fuel conservation from 2009 is underway to meet the Near Zero Carbon Energy Performance Directive 2010/31/EU for new dwellings.

In order to save energy and reduce carbon emissions, new homes will require an increased level of airtightness of $5\text{m}^3/\text{m}^2/\text{hr}$ on all properties, and not $7\text{m}^3/\text{m}^2/\text{mhr}$ as previously stated in TGD F 2009. As a direct result, the requirement for "effective" ventilation has increased, meaning "adequate" ventilation is no longer good enough for indoor air quality (IAQ).

There is a lot of talk about IAQ ... can you explain why?

Indoor air quality (IAQ) is defined as the absence of air pollutants which could affect the comfort or health of the building residents. Various reports into indoor air quality highlight the types of harmful substances we breathe in our

Right: Tristan Healy, Residential Ventilation Specialist with Paige Thomas, Internal Sales Executive and Frank Ludlow, Commercial and Industrial Sales Engineer.

homes, e.g. carbon dioxide, microbial contaminants such as mould spores, radon and other volatile organic compounds. These reports have highlighted the need for effective ventilation.

Also, Ireland has the fourth highest prevalence of asthma sufferers in the world. Given that we spend around 90% of our time in our homes, breathing stale air can have a serious effect on our health. This fact alone requires a practical look at our regulations for improvements.

What, in your opinion, has been wrong up to now?

For quite a long time now in Ireland we have been building and renovating houses without properly taking ventilation into consideration. For the most part we rely too much on natural background ventilation with on/off axial bathroom fans to provide good air quality.

The reality is that more consistent systems are now required. The revision to TGD Part F will result in a significant step towards ventilation becoming a "controlled" service, focusing on energy efficiency and correct installation to ensure that what is specified is fitted correctly, and that it works for the end-user.

Ventilation will need to be installed by a competent person and signed off by a third party (yet to be confirmed); the days of bad practice surrounding MEV and MVHR systems are coming to an end. This is good news for all concerned ... system suppliers, installers, homeowners building occupiers.

So, what are the main points to note?

To begin with, 2018 TGD Part F will keep the traditional hole-in-the-wall method of natural background ventilation and intermittent fans, as well as mechanical ventilation with heat recovery (MVHR). For the first time though it will also include the already popular alternative methods such as centralised MEV extract, decentralised extract fans and single room heat recovery, and alternative European certified methods such as PIV (Positive Input Ventilation).

These new recommendations will offer more budget-friendly, energy-efficient and effective options to challenge traditional "hole-in-the-wall" methods.

A minimum ventilation trickle rate will be applied to all methods of continuous whole-house ventilation and this will depend on house size, occupancy and air permeability, to ensure a consistent level of ventilation at all times. It is a welcome change as it will provide clarification on additional options available to improve IAQ.

In addition, SFP (specific fan power) requirements have been reduced meaning fan products will need to be more energy-efficient. This is no





Solutions to meet Part F Building Regulations for new-build and refurb projects



MVHR
Whole House
Heat Recovery



DCV
Demand Controlled
Ventilation



MEV
Mechanical
Extract Ventilation



PIV
Positive Input
Ventilation



dMEV
Decentralised
MEV



**Kitchen &
Bathroom Fans**

problem for leading suppliers such as S&P as we are already renowned for the level of investment we make in energy-saving products to meet all applications!

What does MEV encompass under the new Part F?

Continuous mechanical extract ventilation (MEV) systems will include central extract units and demand controlled ventilation, as well as decentralised extract fans or single-room HRV units. All will be required to meet a specific fan power (e.g. 0.6 W/l/s for central extract) and must be provided with either a manual or automatic control for boost settings. They must be sited in the areas of extraction, i.e. bathroom, kitchen, en-suite or utility.

The emphasis now is on ensuring that the end-user fully understands and correctly uses whatever ventilation system is installed. An easy solution to this is to install a system with wireless radio frequency controllers, automatic humidity tracker or various demand control options available.

When using continuous MEV, background ventilation is reduced to that of window-trickle vents or similar-sized openings. This negates the need for large core holes in habitable rooms.

You said that "hole-in-the-wall" ventilation will still be allowed, but has there been any alteration to this method?

Yes there has. Trickle vents and extractor fans have been favoured by housebuilders for years. However, due to the introduction of the new air permeability designs, the rates for background ventilation for an airtight property have increased from 5,000 mm² equivalent area to 7,000 mm² equivalent area per habitable room i.e. bedrooms and living areas.

This represents a minimum increase of 40% for all habitable rooms, making it a very unattractive proposition for energy efficiency and even street noise. I expect this method of ventilation to become less popular over time given the modern ventilation methods now available.

Can you recommend an alternative to traditional natural ventilation?

One way to avoid problems with large background ventilators is to fit a BBA approved Positive Input Ventilation Unit (PIV). Normally situated in the loft space, PIV is a whole-house ventilation system which works by delivering fresh, filtered and tempered air into a property at a continuous low rate. One attractive benefit is cost effectiveness. To install PIV the build costs are less than a third compared to other ventilation methods on the market, amounting to significant savings for most budgets.

PIV is quick and easy to install, without the requirement for core drilling, extensive ductwork or wall vents. What's more, in domestic new-build dwellings, PIV can show better results in DEAP than some MVHR and MEV systems.

To discuss in more detail ventilation options to meet Part F of the Building Regulations, contact Tristan and the team at S&P Ventilation on Tel: 01 – 412 4020.

BTU GOLF NEWS

BTU outings round-up

The two most recent outings in the BTU calendar were Luttrellstown and Clontarf. There was an excellent attendance at both, confirming that the BTU is now re-emerging as a major focal point for much of the industry activity, especially in the social context.

Kiernan triumphs at Luttrellstown

The Luttrellstown outing was sponsored by Victualic with Jim O'Shea presenting the prizes on behalf of the company. Overall winner on the day was Seamus Kiernan who took top spot with a score of 37pts.



Conor Lennon, Muller Europe (sponsor) with overall Clontarf winner Jason Warnock and BTU Captain Martin Keogh.

Warnock tames Clontarf

Muller Europe sponsored the outing at Clontarf and Conor Lennon was on hand to present the prizes in the presence of BTU Captain Martin Keogh. Overall winner was Jason Warnock with an excellent score of 41pts. ■



Conor Lennon, Muller Europe (sponsor) and Mick Matthews, winner, Class 1, Clontarf.

Results

Luttrellstown

Overall winner
Seamus Kiernan, 37pts.

Class 1

Winner: Mick Matthews, 33pts;
Second: Ger Hutchinson, 32pts.

Class 2

Winner: Shaun Gillen 34pts;
Second: Gerry Tobin, 33pts.

Class 3

Winner: Tom Fitzpatrick, 32pts;
Second: Jason Warnock, 31pts.

Front 9: Sean Smith, 18pts;

Back 9: David Rossiter, 19pts.

Visitors:

Winner: Cormac Nevin, 35pts;

Second: Noel Kelly, 30pts.

Clontarf

Overall winner
Jason Warnock, 41pts.

Class 1

Winner: Mick Matthews, 36pts;
Second: Michael Kearney, 32pts.

Class 2

Winner: Maurice Kelly, 33pts;
Second: Bernie Costello, 34pts.

Class 3

Winner: David Daly, 36pts;
Second: Vincent Broderick, 29pts.



TIDL
insulation solutions

Pipe Insulation and Pipe Insert Supports?

Think TIDL ... manufactured in Ireland

Dual Temperature Solutions

TIDL Tarecphen

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-50°C to +120°C

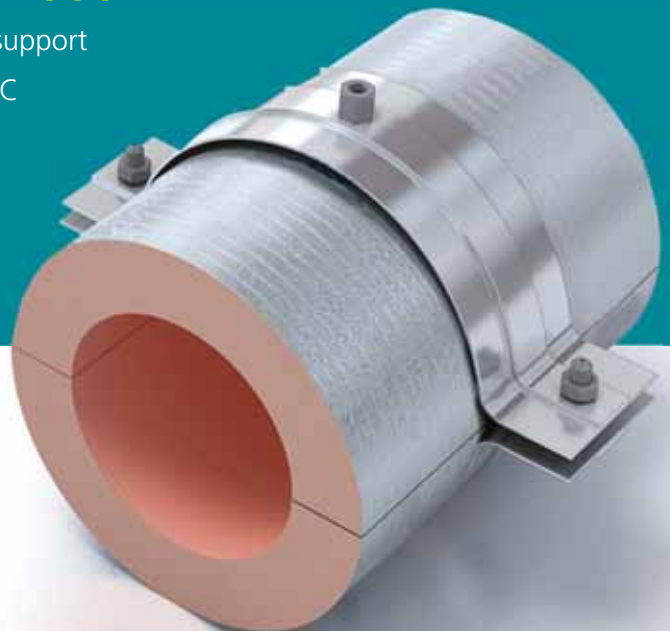
TIDL Tarec PIR

Polyisocyanurate supports
-100°C to +120°C

High Temperature Solutions

Promasil 1000

Calcium silicate support
+ 5°C to +1000°C



The TIDL pipe insulation solutions package comprises pipe insulation and insulated pipe support inserts that achieve a BL-s1, d0 classification to EN 13501-1 when tested under the European Fire Classification System (Euroclass) for "reaction to fire". Designed for use across all insulation applications in pipe supports, hanger baskets and clamps, they will support the compressive loads imposed by horizontal pipework carrying water or all other liquids.

Technical Back-up and Design Support

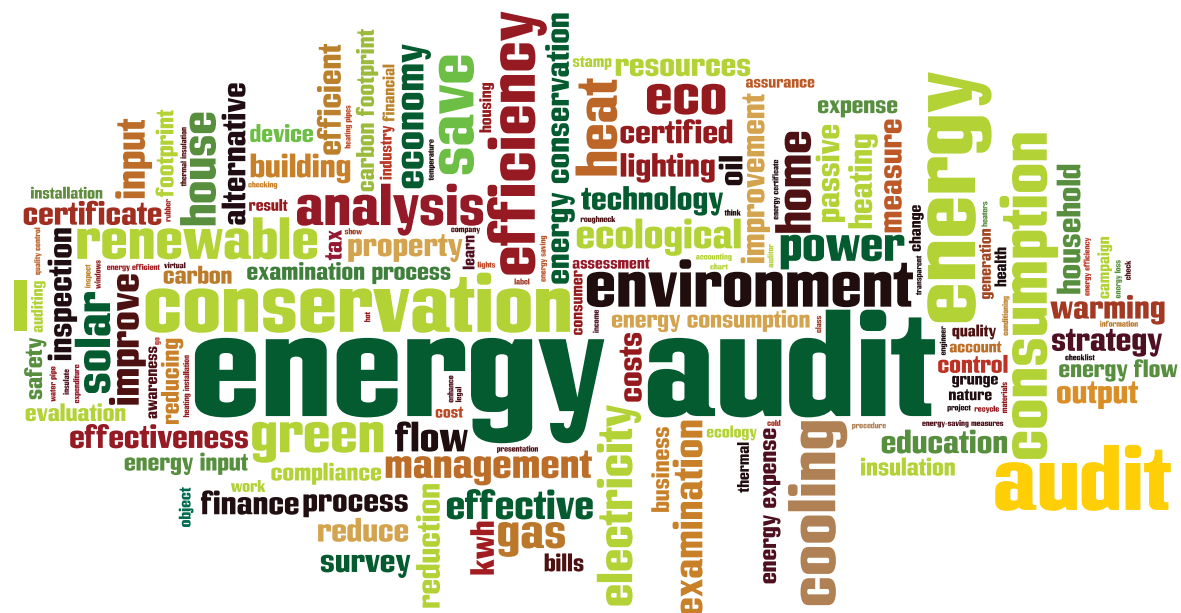
TIDL's Technical Support Team offers comprehensive guidance on product selection, in addition to detailed design advice. This includes all calculations for the carrying capacities of the supports so that a bespoke solution is arrived at for each specific project.

Different Support Mechanisms

TIDL pipe support solutions are also available in different lengths to suit different support mechanisms, from clamping through to rollers, to allow for contraction and expansion. Support inserts provide optimum load-bearing capacity while offering protection against insulation compression.

Thermal Insulation Distributors Ltd

Unit 1-4 Keypoint, Rosemount Business Park,
Ballycoolin, Blanchardstown, Dublin 15.



In this article John Kane, Business Unit Director for Energy & Technical Services Ireland (ETS Ireland), examines in detail the implications of the Energy Efficiency Directive 2012 (EED 2012) for the building services sector. John is a chartered engineer, chartered energy manager, an SEAI approved EAS Registered Auditor (EA10021), and Chairman of the Energy & Environment Division of Engineers Ireland (john.kane@energy-ts.com).

ENERGY AUDITING SCHEME (EAS)

– NOT JUST A COMPLIANCE EXERCISE BUT AN OPPORTUNITY

The Energy Efficiency Directive 2012 (EED 2012) established a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. Under the Directive, all EU countries are required to use energy more efficiently at all stages of the energy chain, from production to final consumption. EED 2012 was transposed into Irish Law under Statutory Instrument 426 of 2014 (SI 426).

It is within Regulations 11 – 17 of SI 426 that the “energy audit scheme”, henceforth referred to as the Energy Auditing Scheme (EAS), is set out. The Regulations state that companies that are not SMEs must carry out an energy audit in accordance with the following principles:

- The first audit should have taken place prior to 5 December 2015;
- The next audit and subsequent audits must take place within four years of the previous energy audit;
- The audits must be carried out by independent, or in-house, qualified auditors registered with the SEAI.

Who does it apply to?

The EAS applies to all non-SMEs, which are defined as legal entities that employ 250 people or more, and have an annual turnover in excess of €50 million, or an annual balance sheet total in excess of €43 million.

In addition, public bodies with buildings having a total useful floor area of more than 500 sqm, or an annual energy spend of more than €35,000, are also required to comply with the Regulations.

If your organisation has a valid, certified energy or environmental management system (ISO 50001, ISO 14001 or equivalent) and it can demonstrate to SEAI that the management system includes an energy audit that meets the minimum criteria, then your organisation can engage a Registered Energy Auditor to confirm in writing that the management system fulfils the requirement for an audit.

Do I have to do it?

The Energy Auditing Scheme is a mandatory energy assessment scheme and a legal obligation for organisations in Ireland that meet the qualification criteria. Organisations that qualify for EAS must carry out an EAS assessment every four years to remain compliant.

Organisations that fail to comply with the requirements set out by EAS may be liable to compliance and enforcement activities which could

include fines of up to €5,000 plus, being publicly "named and shamed".

What are the benefits?

EAS is more than just a compliance exercise ... it provides detailed recommendations of where and how to save energy. While the EAS programme doesn't insist that you undertake the recommended measures from the audits, it provides businesses with a platform to work from to reduce capital expenditure and improve operational efficiency.

Information from your energy audit can be used as the basis for implementing an energy management system (EnMS) to facilitate the realisation of the energy saving opportunities identified. If your system is then certified to ISO 50001 during the next four years, your organisation will automatically demonstrate EAS compliance.

How do I become compliant?

Simply register your company's details on the SEAI's EAS website and then

choose an auditor from the list of approved providers. It is, however, in the best interests of your company to ensure that the chosen auditor has provided the SEAI with its latest tax clearance certificate and that all its records are up to date, as some may have lapsed since the original registered list was created.

Improve your standing

Finally, it is important to stress that while the EAS is a legal obligation, it provides a great opportunity for companies to regain control of their energy usage and identify ways to reduce energy costs. By appointing an experienced auditor who can identify bespoke energy savings solutions for your site, your company will improve financial performance, reduce carbon emissions and demonstrate your Corporate Social Responsibility (CSR) credentials to your clients, thereby improving your standing in the marketplace. ■

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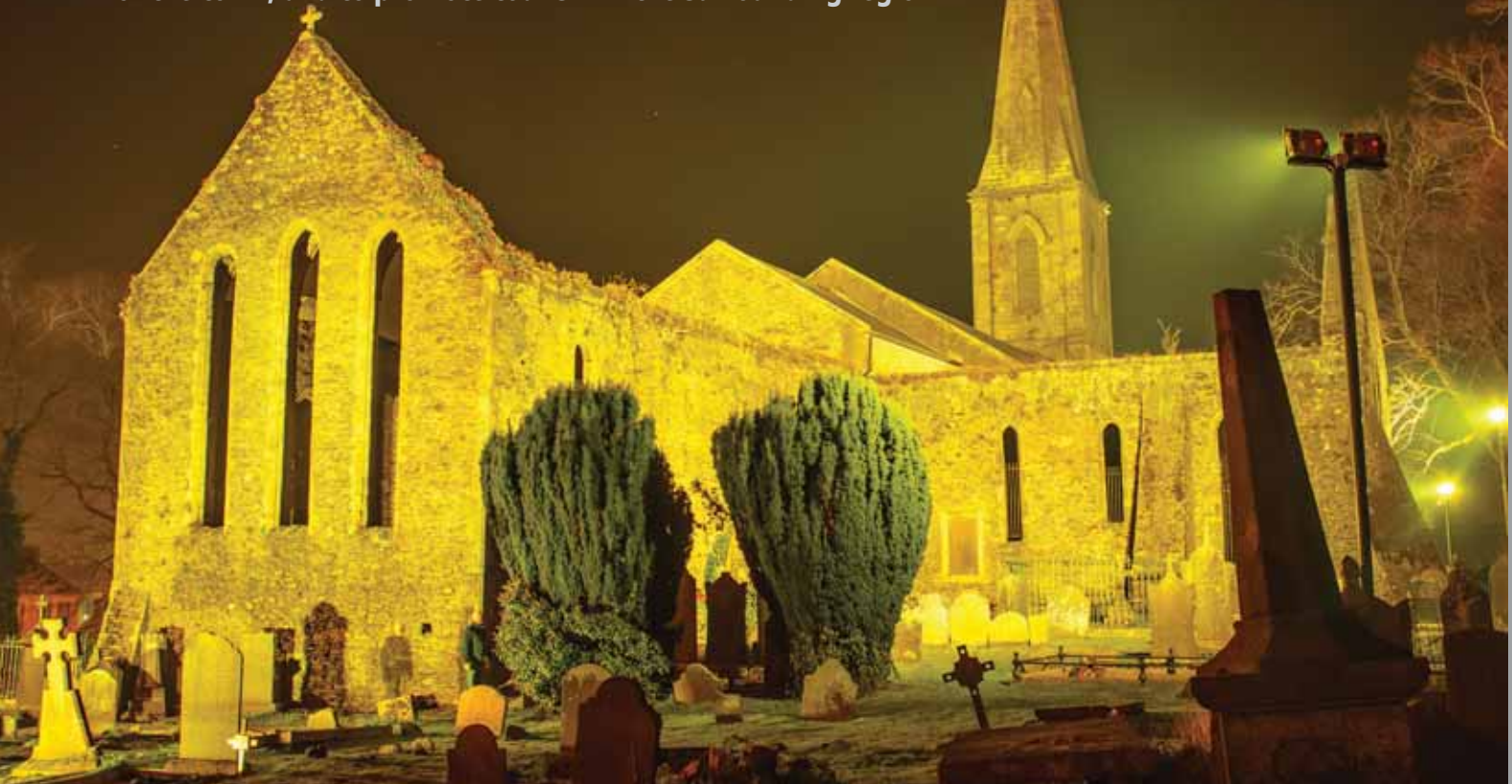
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OUTDOOR ILLUMINATION

St Mary's Parish Church in New Ross is a medieval structure dating back to 1210 and situated on a prominent rise overlooking the town. The nave of the church was knocked down in 1813 and the site is now occupied by the present church, which is still in use today, and stands alongside the ruins of the original structure. Architecturally, the buildings are a mix of Gothic and Norman influences and the site was an obvious choice when Wexford County Council sought to highlight a landmark feature in New Ross to represent the heritage of the town, and to promote tourism in the surrounding region.



Photometrics the key to best lighting design



The outdoor illumination project at St Mary's Cathedral in New Ross, Co Wexford.

The historical significance of the church and ruins, and the prominent elevated site they occupy overlooking the town, made for an ideal lighting project. However, it was also a challenging one in that it called for a customised lighting solution that would offer all the possibilities of modern-day lighting technology but one that was sensitive and sympathetic to the architecture and history of the site, and especially to the fact that it also incorporates a graveyard.

Having considered their options, Wexford County Council appointed Al Reid Electrical, who has extensive experience in this area, to carry out the project. They in turn partnered with Gay Byrne, Chairman of Lighting Association Ireland and Managing Director of Enlighten (part of the Fantasy Lights Group) to come up with the final solution that has won many accolades since it was switched on.

The design process began with an exhaustive site survey that included photography, extensive and very detailed measurements of the various

building ruins, the use of old images and Google technologies. These were then used to create a 3D recreation of the whole site and one that took into account how the lighting would impact not just from the town, but also from the sea.

Once the 3D process was completed this data was then computerised by way of an advanced programme to create the photometrics. These are essential in ensuring that the light levels achieved are correct and appropriate for the sensitivity of the site itself, and the surrounding area. It was not like lighting a football stadium to levels suitable for TV broadcast of field games, but rather delivering a solution that was in keeping with the fact that it houses centuries-old ruins and an operational church of unique architectural heritage.

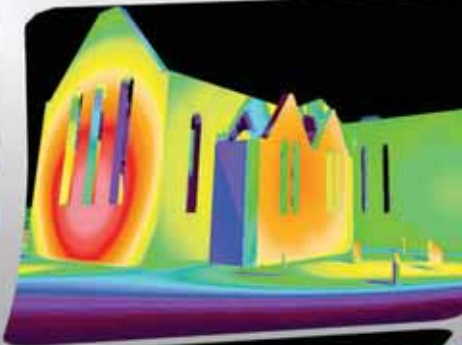
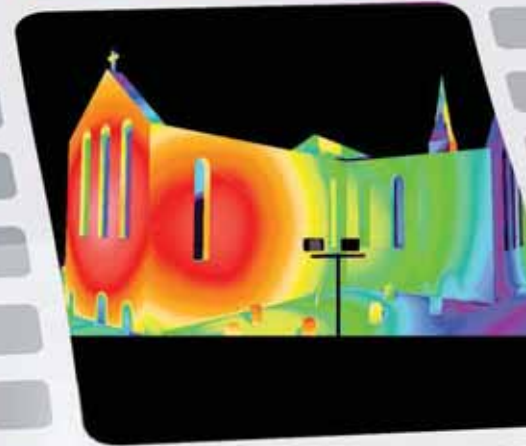
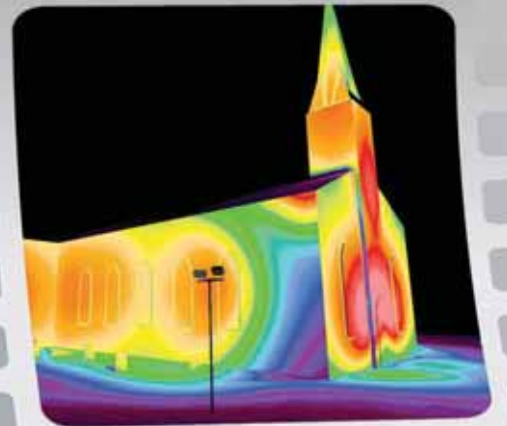
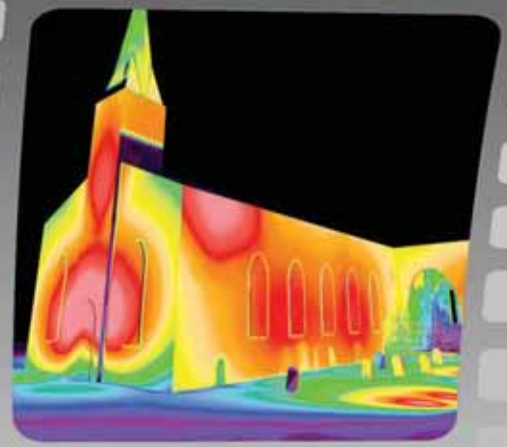


The use of the photometrics was essential in devising and indeed visually demonstrating (see images, right) the different light levels required for the various buildings on the site, and to test and visualise the different optics that were required. They also facilitated visualisation of the varying effects that can be achieved by setting the fittings at different angles and mounting positions. For instance, some of the façade fittings are mounted on poles.

The light fittings chosen were high-quality Griven units incorporating RGBW technology. In addition to an RGB chip, they also feature an individual white light chip which is the only way to achieve pure white. This was essential in delivering the final desired effect. Griven is one of the market-leading manufacturers in the architectural lighting sector, featuring a comprehensive catalogue of proven quality, high reliability and fully weather-proofed lighting fixtures that offer innovative and alternative colour-changing solutions. A mix of different Griven luminaires were used on the project.

The overall lighting solution is controlled by a DMX management system that can be accessed and operated from a computer through to an iPad and mobile telephone. This role is delivered off site by AI Reid Electrical but, for the most part, the colour-changing is pre-programmed to coincide with various dates, festivals, events, national holidays, etc.

That the final solution provided is perfect and fit-for-purpose is evident for all to see. However, the importance of the detailed site survey, research and accumulation of all manner of data to create the 3D imagery which in turn leads to the computerised photometrics cannot be overstated.



Irish team scores at FESI Insulation Apprenticeship Championships

The Irish team competing at the recent FESI Insulation Apprentice Championship at IEX in Cologne scored a very creditable fourth position out of the total of 11 countries that participated. The team was sponsored by Thermal Insulation Distributors Ltd (TIDL) and was accompanied on the trip by Pdraig and Shaun Gillen of TIDL.

“At TIDL we believe strongly in the apprenticeship route and regard a good apprenticeship as essential, not just for the individuals concerned, but for the whole industry”, says Pdraig Gillen of TIDL. “Because of this we engaged with Mick Kelly and his colleagues at the Waterford & Wexford Education and Training Board (WWETB) as early as two years ago and devised a sponsorship programme to support insulation-related apprenticeships on the Solus-run course at WIT.”



Above: Shaun and Pdraig Gillen of TIDL who sponsored the apprentices.



Left: Pictured prior to the presentations are Nathan Farrell and Gerry Condrun, Team Ireland, with Cullen Dempsey (centre), Director at their employer, Industrial Insulation Specialists, Cork



Nathan Farrell pictured with Mick Kelly, WWETB and Gerry Condrun proudly proclaiming which country they represent.

The fruits of that cooperation saw two apprentices – Nathan Farrell and Gerry Condrun – emerge as best in class on the course in WIT and so qualify to represent Team Ireland at the FESI Insulation Apprentice Championship at IEX in Cologne. This is the first time that Ireland entered a team and Nathan and Gerry gave an excellent account of themselves to take fourth place overall.

The FESI Apprentice Championship is a bi-annual competition and this year saw the best insulators from Germany, the UK, Finland, the Netherlands, Austria, Switzerland, Denmark, Poland and Ireland come together in Cologne to compete, their task being to lag a dummy with a variety of different insulation materials. But the event isn't all about the fighting spirit – cooperation, mutual understanding and friendship among the competitors play an equally-important role in the competition.

“This proved to be a wonderful experience for Nathan and Gerry, and indeed the rest of the Team Ireland crew”, says Shaun Gillen. “It strongly reinforced just how important apprenticeships are for the entire insulation sector and convinced us to reaffirm our commitment to continue with our sponsorship of the WIT course”. ■



'SHUSH ... I can't hear the Ultra Quiet Ecodan'

Building Services News recently travelled to the Mitsubishi Electric R&D Centre Europe – located in Livingston, Scotland – for the roll out of the new Mitsubishi Electric Ultra Quiet Ecodan air source heat pump range. Available in 8.5kW and 11.2kW sizes with sound levels that are three times quieter than previous units, they are designed specifically for residential applications and virtually eliminate planning restrictions.

“With the new grants, the government has already recognised the importance of air source heat pumps for the future of low carbon heating in the Ireland”, says Richard Sherlock, National Sales Manager Ireland, Mitsubishi Electric Europe BV. “One of the key areas that will affect adoption of these energy-saving systems is noise, and our new units are designed specifically to overcome any issues with noise.”

In the residential environment, sound is important because low sound increases the flexibility of where a heat pump can be positioned. To ensure neighbours aren't disturbed, permitted sound levels must meet certain limitations when measured at a point one metre

away from the neighbour's nearest door or window.

“Our market-leading Ecodan heat pumps have always been among the quietest on the market”, says Richard, “but the new ultra quiet models take this to the next level. The 8.5kW Ultra Quiet Ecodan has a sound power level of only 58 dB(A), which is an 8 dB(A) drop over the model it replaces. It also has a sound pressure level of just 45 dB(A) at one metre”.

“It is important to understand the difference between sound power and sound pressure”, says Dave McConnell, Sales Manager, Heating Products. “Sound power is the cause of a noise or the total sound energy emitted by a source in all directions, whereas sound pressure is the effect or the sound we hear. This is determined by the environment and



by the distance from the source of sound. We think of this as the intensity or loudness of a sound. For instance, an ambulance registers 120 dB(A) whereas a vacuum cleaner registers around 73 dB(A). Typical room conversation comes in at around 60 dB(A).

“With a sound pressure level of just 45 dB(A), the new Ultra Quiet Ecodan is whisper-quiet, with levels just above that of a library, meaning it can be installed almost anywhere to suit the homeowner. This is a result of a decade of manufacturing Ecodan in Scotland and we have used this knowledge and experience to refine Ecodan and design it specifically for residential use in Ireland.”

Innovations in fan and compressor design have enabled the units to achieve these low levels of sound while increasing performance and efficiency. Both models in the range (PUHZ-W85VAA and PUHZ-112VAA) are A++ ErP rated and are also available with coastal protection for areas where they may be exposed to saline.

Contact: Dave McConnell,
Sales Manager Heating Products,
Mitsubishi Electric. Tel: 01 – 419 8800;
email: david.mcconnell@meir.mee.com



The Mitsubishi Electric R&D Centre Europe in Livingston, Scotland where the new Mitsubishi Electric Ultra Quiet Ecodan air source heat pump range was launched recently.

RACGS NEWS

Captain's drive-in, The Heritage

The RACGS Captain's drive-in outing was held in The Heritage Golf Club and was sponsored by Carel Ireland with Dave Killalea on hand to present the prizes. Results were as follows:

Overall winner: Matt Curran, 40pts.

Class 1 Winner: Ger Darcy, 38pts; Second: Joe Warren, 33pts.

Class 2 Winner: Johnny Lynagh, 38pts; Second: James Darcy, 34pts.

Front Nine: Don Ryan, 14pts; **Back Nine:** Darren Keane, 19pts.



The Heritage: RACGS Captain Martin Buggy with overall winner Matt Curran and Dave Killalea, Carel Ireland.

President's Day, Kilkee Castle

The President's Day was held in Kilkee Castle and was sponsored by DWG with Mark Kiely presenting the prizes. Results were as follows:

Overall winner: James Darcy, 33pts.

Class 1 Winner: Jack Elstead, 31pts (won on count back);
Second: Declan Walsh, 31pts.

Class 2 Winner: John Qualy, 31pts; Second: Johnny Lynagh, 30pts.

Front Nine: Paul O'Sullivan, 15pts; **Back Nine:** Jimmy Weldon, 17pts.



Kilkee Castle: Mark Kiely with Johnny Lynagh, second, Class 2.



The Heritage: Dave Killalea congratulating Class 1 winner Ger Darcy.



Kilkee Castle: Mark Kiely with overall winner James Darcy.



The Heritage: Joe Warren, second, Class 1 receiving his prize from Dave Killalea.

FDC inverter multi-split systems from MHI

The new range of Mitsubishi Heavy Industries FDC multi-split systems from Diamond Air enables the connection of two, three or four indoor units to a single outdoor unit. All the standard split system indoor units can be connected in various combinations, with the capacity to also mix indoor unit types (cassette, ducted or ceiling type) on one system.

The new FDC units incorporate a host of additional features and benefits, all of which lead to better performance, greater energy savings and heightened comfort levels.

For instance, the integrated motion sensor control detects human activity and energy saving control is achieved by shift set temperature according to the detected amount of activity.

The unit will go off automatically and remain in stand-by mode when no activity is detected for 12 hours. When activity is detected again, it will re-start operation automatically.

Another new feature is the unique flexible flap control for draft prevention. Four additional flaps can be controlled individually at each operation mode.

They change airflow direction and prevent the feeling of drafts. They also achieve more flexible control for airflow direction. Users can position the draft prevention panels by using the remote controller on certain models.

New technology also means quieter operation. Low noise is achieved by reducing the pressure fluctuation in the indoor unit and the fan guard attains both safety and quietness by flow.

The new FDC series has also received the "G Mark" Good Design Award, the symbol of Japan's only comprehensive design evaluation and recommendation initiative. This is now a global design award with participation from numerous Japanese and international companies and organisations.

Contact: Michael Clancy (087 – 262 0701) or Graham McCann (087 – 950 9402), Diamond Air Conditioning. Tel: 01 – 636 3131; email: info@diamondair.ie; www.diamondair.ie ■



A new feature of the FDC system is the unique flexible flap control for draft prevention (closed in main pic and open in inset).

Green heating solutions from Grant

With over 40 years' experience in championing innovation, reliability and efficiency, leading heating manufacturer Grant is a firm favourite within the plumbing and heating industry in Ireland and the UK. In addition to meeting the demand for efficient home heating with its award-winning range of Vortex condensing oil boilers, Grant has recognised the industry's need for more environmentally-friendly home heating solutions with the development of the revolutionary VortexAir Oil Hybrid and the Aerona³ inverter-driven air source heat pump (ASHP).

The VortexAir Oil Hybrid, which has proven highly-popular with both homeowners and installers alike since its launch just under two years ago, offers a greener alternative to home heating and enables the user to switch between heating systems thanks to the unique combination of Grant's patented condensing oil technology with the Aerona³ ASHP. The versatile nature of the VortexAir Oil Hybrid means that the end-user can benefit from the best of both worlds and greater efficiencies due to the advanced control system which regularly monitors system temperatures and switches easily to the most efficient and cost-effective heating mode.

Moreover, the VortexAir Oil Hybrid is perfectly suited for new builds and retrofits and the oil boiler, which operates as a stand-alone unit, can be installed immediately, with the Aerona³ ASHP then fitted at a later

date that best suits the homeowner. Ultimately, this forward-thinking arrangement ensures minimal disruption to the home and greater flexibility when installing as the oil boiler can be fitted externally alongside the heat pump or internally, depending on the space that is available.

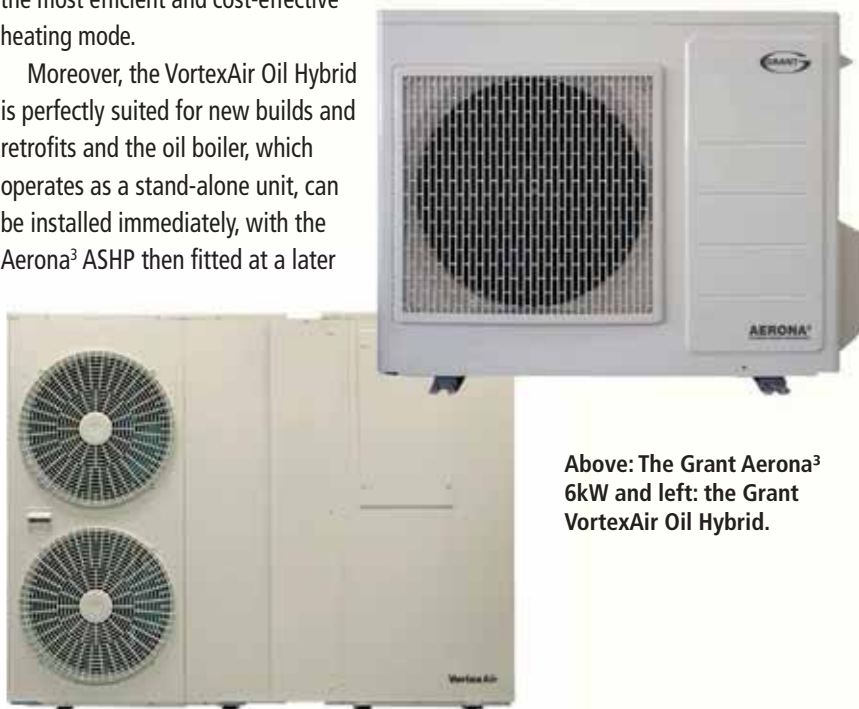
The highly efficient Aerona³ air source heat pump (ErP rating A++) can also be purchased as a stand-alone unit and is available in three single-phase models of 6kW, 10kW and 16kW. It is an excellent heating solution for those wishing to safeguard against the rising cost of

fossil fuels while helping to improve a household's carbon footprint through the reduction of harmful greenhouse gas emissions. The compact design of the Aerona³ offers a range of clever design features including weather compensation controls and a base tray heating element to stop ice formation in cold weather conditions. The air to water system utilises the heat energy captured from the air in "wet" heating system radiators or underfloor heating and can deliver over four times the amount of energy for every 1kW used, depending on the flow of temperature and climate conditions at the time.

As a heating system of choice in the market, the range of heat pumps also delivers superior seasonal coefficient of performance (SCOP), even if temperatures outside were to drop as low as -20°C. Householders will also be able to enjoy the added peace of mind that they are being as efficient as possible, no matter what season it is, as the unit's output modulates up or down depending on the climate conditions and the demand on the heating system. Those wishing to install an Aerona³ ASHP can also receive up to €3,500 through the new heat pump grant recently announced by the Sustainable Energy Authority Ireland.

Both the VortexAir Oil Hybrid and Aerona³ ASHP also provide the added benefit of helping those carrying out new-build projects to meet Part L compliance as outlined in the Building Regulations. To assist homeowners and architects or surveyors carrying out such projects, the technical team at Grant provides a free-of-charge heat loss calculations service which advises on the best heating solution for each individual project. To avail of this service email the plans and xml file of your project to heatpump@grantengineering.ie.

Visit www.grant.eu for more information on Grant's range of innovative heating solutions. You can also follow Grant on Facebook and [Twitter@GrantIRL](https://twitter.com/GrantIRL). ■



Above: The Grant Aerona³ 6kW and left: the Grant VortexAir Oil Hybrid.

Wilo IE5 high-efficiency Stratos GIGA

The Wilo-Stratos GIGA high-efficiency pump not only optimises the operation of heating, cold water and cooling systems, but also the cost balance and life-cycle assessment. Compared to conventional pumps without speed control, the Wilo-Stratos GIGA saves up to 70% on energy consumption annually, which equates to a saving of as much as eight tonnes of CO₂.

The pumps can be installed in-line, end-suction or twin-pump configured, or indeed as a bespoke skid assembly arrangement. The special features and benefits of the new range are as follows:

- Innovative high-efficiency double-pump for maximum overall efficiency based on a new Wilo glanded design for efficiency-optimised control during parallel operation;
- High-efficiency EC motor with efficiency Class IE5 according to IEC 60034-30-2;

Technical Data

- Minimum efficiency index (MEI) ≥ 0.7 ;
- Permitted temperature range of the fluid: -20 °C to +140 °C;
- Mains connection 3~480 V $\pm 10\%$, 50/60 Hz;
- Protection class IP 55;
- Max. operating pressure 16 bar up to +120°C, 13 bar up to +140°C.



Wilo Stratos GIGA D

- High-efficiency hydraulics, optimally adapted to the EC motor technology, with optimised efficiency, minimum efficiency index (MEI) ≥ 0.7 ;
- Highest operational safety through reserve pump;
- Optional interfaces for bus communication using plug-in IF-modules.

Service and maintenance packages

These high-performing quality products provide customised solutions for all pump systems applications, including service packages tailored to user groups. "We offer product selection and design advice before a project commences, and then ongoing support throughout the installation process," explains Derek Elton, Managing Director, Wilo Ireland.

"The provision of this service includes commissioning support, an installation check, optimisation of the settings, on-site maintenance and an obligatory test-run. All of this is delivered via our own in-house engineering technicians, and through the qualified engineering teams of our nationwide supply partners."

Contact: Wilo Ireland.

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



Wilo Stratos GIGA Siflux "skid assembly"

Xylem recognised for innovation and energy efficiency at SEAI Energy Show

Xylem is celebrating a successful two days at the SEAI Energy Show 2018 having been Commended under the Best Energy Efficient Product category for its Flygt Concertor wastewater pump, and under Best Innovative Product for the recently-launched HydroInfinity Agriculture Series.

“The water industry faces many challenges in 2018, not least the need to be more resilient, smarter and more sustainable,” says Kevin Devine, Business Development Manager for Building Services and Industry at Xylem. “Both the Flygt Concertor and the HydroInfinity have been developed to meet these needs head-on, a fact that has been validated by their success at this year’s SEAI Energy Show Awards.”



Best Innovative Product – Highly Commended: Joe Durkan, Product of the Show Awards judge with Kevin Devine and John Quigley, Xylem and Majella Kelleher, Head, Business and Public Sector in SEAI.

Flygt Concertor is the world’s first wastewater pumping system with integrated intelligence. It provides real-time feedback to operators and can automatically adjust its performance to cope with changing conditions. Through self-learning and predictive maintenance, the Flygt Concertor can achieve energy savings of over 80%.

The second award winner, Xylem’s HydroInfinity Agricultural Series, has only recently been launched to the market, but it is already gaining a reputation as an innovative solution for both sustainable and hygienic water use.

“The H2Ozone-patented technology employed by HydroInfinity is capable of purifying rain, municipal and ground water to a safe drinking level beyond

that consumed by humans,” added Kevin Devine.

Used primarily to provide water for poultry, cows and pigs, HydroInfinity has the potential to dramatically reduce the number of antibiotics used in livestock, by inactivating common pathogenic organisms such as e.coli, cryptosporidium, salmonella and Legionella through a combination of UV treatment, “ozonation” and filtration.

Other Xylem products present at the stand included the Lowara ecocirc range, a portfolio of circulator pumps designed to provide energy efficient HVAC solutions for domestic buildings.

“The Lowara range embodies what’s often referred to as the ‘smart building’, Kevin says. “Here again, it’s all about using data and performance monitoring to ensure that HVAC and water systems are tailored to the needs of the environment in which they are used, which prevents energy, electricity and water from being wasted.

“This was our first time exhibiting at the SEAI Energy Show”, Kevin says. “and all-in-all it’s been a huge success”.

Contact: Kevin Devine, Business Development Manager, Xylem.
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email: kevin.devine@xylem.com;
www.xylem.com/en-ie/ ■



Best Energy Efficient – Commended: John Kane, judging panel with Kevin Devine and Aoife Rochem, Xylem.

TRAINING ON THE GO!

Training should be an important part of every engineer's routine but, as most are busy people it can be difficult to find the time for a full day's training session. Luckily, manufacturers are making courses more accessible and turning to online tools to help engineers top up their knowledge.

Paul Clancy, Managing Director, Baxi Potterton Myson, explains.



With new legislation, products and technology emerging all the time, HVAC engineers need to undergo regular training to ensure that they complete jobs to the highest quality, and in a safe way. Continuous training means engineers are constantly upskilling and can therefore take on more jobs. However, taking a day off from the tools can be difficult to justify for an engineer with his own business. Thankfully, manufacturers are tackling this concern by making training more

comprehensive and accessible than ever.

Current courses on offer cover an increasingly wide variety of topics – from sharpening up on the basics like how a combi works, through to more specialist subjects designed for experienced and established installers looking to widen their remit into new areas. Increasingly, courses are becoming more tailored so that any heating engineer can find a course that meets their requirements.

Manufacturers now recognise

that courses must fit around heating engineers' needs, so tailored doesn't have to be expensive either. What's more, training sessions are being delivered at multi locations so that engineers can cut down their travel time and spend more time in training.

While there is no substitute for getting "hands-on" with products at manufacturers' training centres, there is now a wide range of online resources designed to help engineers top up their knowledge. There is an active community of installers on social media who regularly share their opinions, give advice and debate prominent issues, and manufacturers are creating more and more content to cater for this audience.

Video is a typical example and it now makes up the bulk of content shared on social media ... around 100 million hours of video are watched every day on Facebook alone. Unlike real life, videos can be paused, rewound and watched as many times as it takes for the message to sink in. So, when it comes to helping someone get to grips with a new product, piece of legislation or technical procedure, it's a great teaching aid.

That's why Baxi is now sharing weekly #TrainingTuesday videos on its social media channels, fronted by its team of trainers, to help bring the classroom to installers, wherever they are. Each presentation covers a different topic, ranging from servicing through to maintenance, installation and repairs. At no more than a minute long, even the busiest installer can fit them into the day.

While the ideal is still hands-on training at a manufacturer's training centre, engineers looking to sharpen their skills, or learn new ones, have no excuse as the choice of online educational resources now available is excellent. So, for quick tips or an answer to a burning question, see Baxi's #TrainingTuesday videos on Twitter and Instagram @baxiboilers, and Facebook at @baxiuk. ■



This image from one of the online training presentations illustrates the inter-active nature of the content.

WEEE Directive

The change from ten to six categories of EEE

The EU Directive for the management of waste electrical and electronic equipment (2012/19/EU) was published in 2012. It was fully transposed into Irish legislation in 2014 by the European Union (Waste Electrical and Electronic Equipment) Regulations 2014. The regulations are referred to as the WEEE Regulations and they place obligations on various industry sectors, including manufacturers and importers (known as Producers in the WEEE Regulations), as well as on distributors (e.g. wholesalers and retailers). Consequently, they impact hugely on the building services sector. With significant changes from ten to six categories to be introduced shortly, here *Michael Owens, Producer Responsibility Team, Environmental Protection Agency*, gives a full update on the current situation and what will unfold as the changes are implemented.



Michael Owens, Producer Responsibility Team, Environmental Protection Agency

Producers are divided into two types, the first being Business to Business (B2B). These producers supply electric and electronic equipment (EEE) of a type that is used only in a business environment such as in universities, hospitals and in business premises. B2B EEE can include laboratory and refrigeration equipment, IT systems and photocopying machines. This type of EEE is not typically used in the home.

The other type are Business to Consumer (B2C) producers who only supply EEE of a type that is typically used in the home, e.g. laptops, TVs and washing machines.

Currently, the system in Ireland only facilitates self-compliance by B2B producers. B2C producers can join a compliance scheme, i.e. WEEE Ireland or ERP Ireland. Who you join depends on where your business premises are located. Self-complying B2B producers are required by the WEEE Regulations to make annual submissions to the EPA. The required submissions are as follows:

- A 3-yearly WEEE waste management plan (WMP). This plan will set out your best estimates of the types and amounts of WEEE that you expect to be returned to you from users over the following 3-year period;
- An annual WEEE waste management report (WMR). This report includes the details of the WEEE that was returned to you in the previous year by users of your products.

These submissions are made using online webforms and are due by the 31 January in both cases. Access to the webforms is through a portal website known as EDEN Ireland (www.edenireland.ie). Many of you may already be using this system to make your submissions. It is important to note that a critical part of both the WMP and WMR submissions to the EPA relates to "take back" of WEEE from those who are using your products. Under the WEEE Regulations you, as a B2B producer, are obliged to tell your customers that you will take back the product when it reaches end of life, i.e. becomes WEEE. As a B2B producer you may be subject to audit by the EPA and this is one of the obligations that will be closely examined.

Regardless of whether you are a B2B or a B2C producer, all producers of EEE must register annually with the Producer Register Limited (PRL). Contact details for PRL can be found on their website www.producerregister.ie. Using the "WEEE Blackbox" system, all producers are required to report

monthly to PRL the types and amounts of EEE product that they are placing on the market in Ireland. The Blackbox system is secure and confidential to protect producer market share data.

As stipulated in the WEEE Directive, the WEEE Regulations currently assigns EEE types into ten different categories (see Schedule 1 of the WEEE Regulations). However, this is due to change. From 15 August 2018 the number of categories will reduce to six. See Schedule 2 of the Regulations for a list of the six categories, plus examples of the types of EEE that will typically fall into these categories. However, as agreed with the EU Commission, for ease of reporting etc, the changeover will be effective from 1 January 2019 to avoid reporting in two category systems in the one year.

The reporting systems that are used by PRL and the EPA, as described above, are currently being updated to cater for reporting in six rather than ten categories. Therefore, regarding the EPA reporting system on EDEN Ireland, the following is a summary of what you can expect to see.

- **January 2019** – the 2018 WMR will be due for submission. The WMR online webform will still display ten categories as 2018 WEEE data is currently being assigned to 10 categories. Use of the 10 categories will cease at the end of 2018;
- **January 2019** – If you are due to submit a WMP (due every three years), the WMP online webform will display six categories rather than ten as you will be looking forward over the next three years (2019 to 2021) and you will have to think in six categories rather than 10;
- **January 2020** – The 2019 WMR will be due for submission on this date. The WMR online webform will display six categories rather than 10 as 2019 WEEE data will have been collected in six categories.

More information on the change to six categories can be found on the Producer Register website at: <https://www.producerregister.ie/news/presentations-from-6-category-seminar-and-ewrn-guidance-documents>

Image: Steve Mann/Shutterstock.com



Michael McCarthy, Versatile, sponsor, with Paul Byrne, Tech Refrigeration, winning team captain; Damien Flynn, Vice-Chair CIBSE Ireland and Adam Dent, CIBSE YEN and event organiser.

Testosterone-fuelled CIBSE YEN Five-a-Side

If there was any doubt that young (and not so young) building services personnel lacked drive, ambition and competitiveness, that was truly dispelled at this year's recent CIBSE

YEN five-a-side football tournament. To say that it was it was keenly contested would perhaps be an understatement but all credit to organiser Adam Dent for maintaining order. In fact, Adam deserves great credit for this event as he pulls the entire tournament together, dealing with everything from getting teams in, selecting and booking the venue, working out the schedule, the trophies, etc. Credit also to Versatile who sponsored the event.



Semi-finals

Aircon Mech 2 ATP 1; Tech Refrigeration 3 IN2. 0

Final

Tech Refrigeration: 4 Aircon Mech 2.

Wooden Spoon game

JV Tierney's v Homan/Metec Combined ... let's just say that was a draw.



Team Tech Refrigeration



Team ATP



Team Homan O'Brien



Team JV Tierney



Team Aircon Mech



Team IN2 Engineering



Team Metec

R32 PACi line-up marks further step towards Panasonic full switch to R32

Panasonic has pledged that all Panasonic air-conditioning products, with less than 3kg of refrigerant, will be available in R32 by the end of 2018. As part of this switch, Panasonic has now introduced the first phase of its upgraded R32 PACi room air-conditioning range for commercial use.

The R32 PACi line-up gives distributors and installers a higher-value, future-proof offering for customers with the reassurance that the products adhere to impending European legislation. Business owners making the switch to R32 PACi can also benefit from energy and cost savings, thanks to a higher energy efficiency performance of up to 10% with R32.

A further advantage of the R32 PACi line up is that it comes with a new data navi remote controller as standard. Compatible with the data navi app, this easy-to-use tool delivers essential product information directly to the smart device of the product owner or maintenance professional. This in

turn enables faster completion of commissioning tasks with easy test run mode, and instant access to Panasonic's manuals' data base. Not only does this save valuable time, it also reduces maintenance costs and helps to minimise disruption during servicing. Business owners can also monitor energy consumption and take steps to manage its usage.

Vincent Mahony, National Manager, Panasonic Ireland, comments: "In 2018, Panasonic Air-Conditioning will bring R32 products to market quickly, so that distributors and installers can meet customers needs. The

new R32 PACi line-up marks an important step towards this goal, offering a lower impact on global warming and better energy-efficiency for a more sustainable customer option."

The upgraded R32 PACi line-up currently includes:

- R32 outdoor units: STD series (PZ) 100/125/140;
- R32 indoor units: 4-way cassette (PU2), ceiling (PT2), duct (PF2), wall mounted (PK2).

The new R32 PACi indoor units are compatible with both R410 and R32 outdoor units. This allows an easy phase-in of the new line-up if required, starting with the interior units. R32 PACi outdoor units are not compatible with R410 indoor units.

The new R32 PACi line-up is now available with phase two, the upgrade to R32 and data navi of the remaining PACi range, scheduled for later this year.

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



The new generation Panasonic air conditioners with R32 represents innovation in every way.

Taking advantage of low NOx technologies

Emissions of nitrogen oxides (NOx) from combustion equipment are becoming an increasingly important consideration from both an environmental and regulatory point of view. Here *Bernard Dawson, Technical Director with Riello*, explains how NOx levels from burners can be reduced.

As NOx regulations continue to be tightened through legislation, it becomes increasingly important for engineers and building operators to make use of the latest burner technologies to reduce emissions. In the case of achieving low NOx levels, there are two key technologies to understand – flue gas recirculation and premix.

Flue gas recirculation

Flue gas recirculation (FGR) is a proven method for reducing NOx levels in pressure jet burners but historically it has not been widely used as it requires additional controls. However, with tighter NOx regulations, it is a very effective way to meet these stricter requirements

As air contains around 79% nitrogen, a considerable amount of nitrogen is introduced to the combustion chamber of boilers and other combustion equipment, potentially leading to the formation of NOx. This NOx formation is exacerbated by high flame temperatures.

The principle of FGR is that a percentage of flue gases – which are relatively cool and inert – are piped back into the burner air supply system to reduce the flame temperature. Further cooling is achieved by the inhibiting presence of CO₂.

FGR burners are now available with outputs from 500kW to 32MW, to provide ultra-low NOx emissions

Bernard Dawson, Technical Director, Riello

as low as <40mg/kWh. To put this figure into context, EN 676 requires burners to achieve 80 mg/kWh, or less, to be classified as “low NOx”.

Premix

There are occasions where premix burner technology is an appropriate alternative to FGR and the main differences between traditional pressure jet burners and premix burners relate to the ways in which the air and gas is mixed, and in the technology of the combustion head.

In traditional pressure jet burners, the gas and the combustion air are mixed at the point of ignition on the end of the combustion head. In premix burners the air-fuel mixture is created upstream of the combustion head which comprises a metallic cylinder that has multiple gas ports on its surface and is covered with a woven wire gauze (known as a “sock”). The air-fuel mixture flows inside the combustion head, through precision-located ports and sock to the external side of the combustion head where ignition occurs.

This means that the flame develops only on the external surface of the combustion head, with combustion taking place very close to the metallic fibre of the blast tube. This results in extremely compact flame geometry, with lower peak flame temperatures, reducing the potential for NOx formation.

Even on large burners up to 3MW, we have seen NOx emissions of lower than 30 mg/kWh and, on some independently-witnessed site tests, even down to less than 20 mg/kWh.

Horses for courses

Selecting the most appropriate technology to achieve low NOx is very much a case of horses for courses, as every project has its own particular requirements. The important thing is to be aware of the options available and to make a selection in the light of specific project criteria.

Further information see: www.rielloburners.co.uk

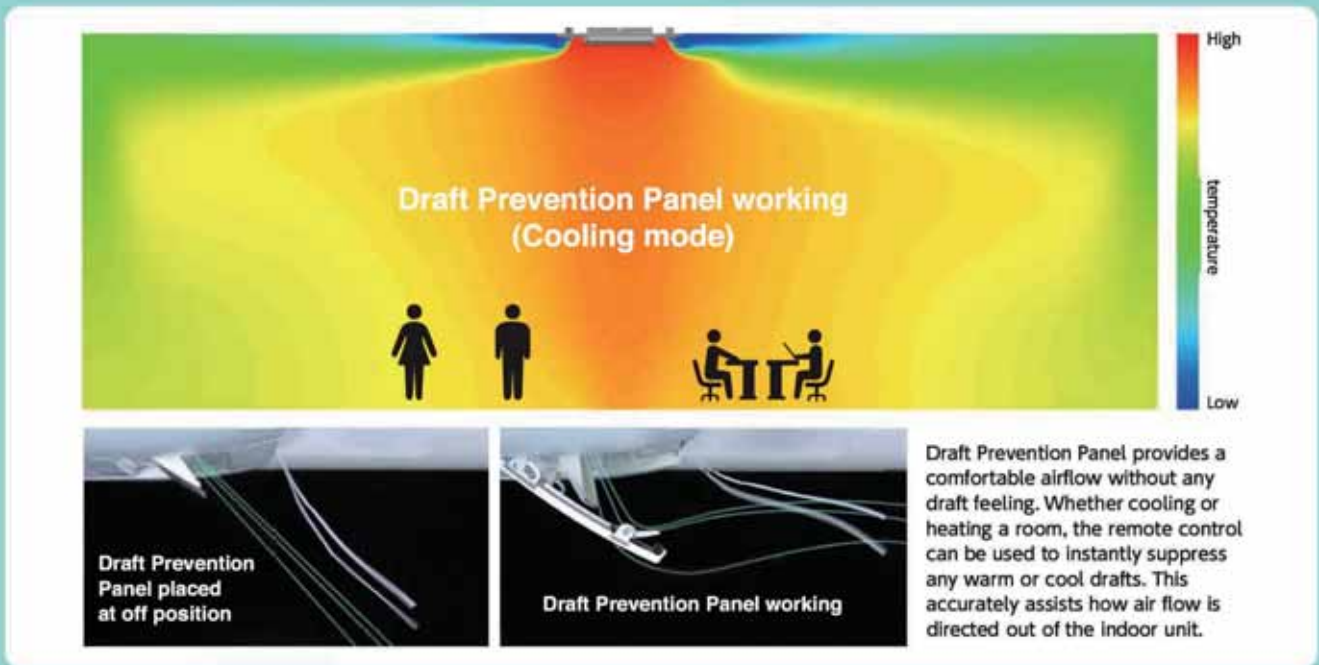


Automatic energy saving control ensures maximum comfort with minimal draft and quiet operation

New Generation

New! Draft Prevention Panel (Option)

- Brand new function in the market
- Flexible flap control for draft prevention
- 4 additional flaps are controlled individually



Panasonic

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100
100th Anniversary

Panasonic is celebrating two major milestones during 2018. Its 100th anniversary of the Panasonic brand and 60 years of technical expertise in the world of heating and cooling.

60
60th Anniversary
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A complete range of high performance wall, cassette, ducted, ceiling and floor standing units.

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- **Full R32 product range**



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Improve efficiency and benefit from a high level of comfort with less energy consumption.

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NEW

ECO *i*



ECO **G**

POWER SUPPLY ISSUES?
NOT A CHALLENGE FOR THE
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COMFORT (IAQ)

For business partners
EASY INSTALLATION AND INTEGRATION

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CapEx

For building owners
OpEx

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