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BS News November/December

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bs news

building services news

November/December 2012



SO, WHAT'S
ANOTHER YEAR?

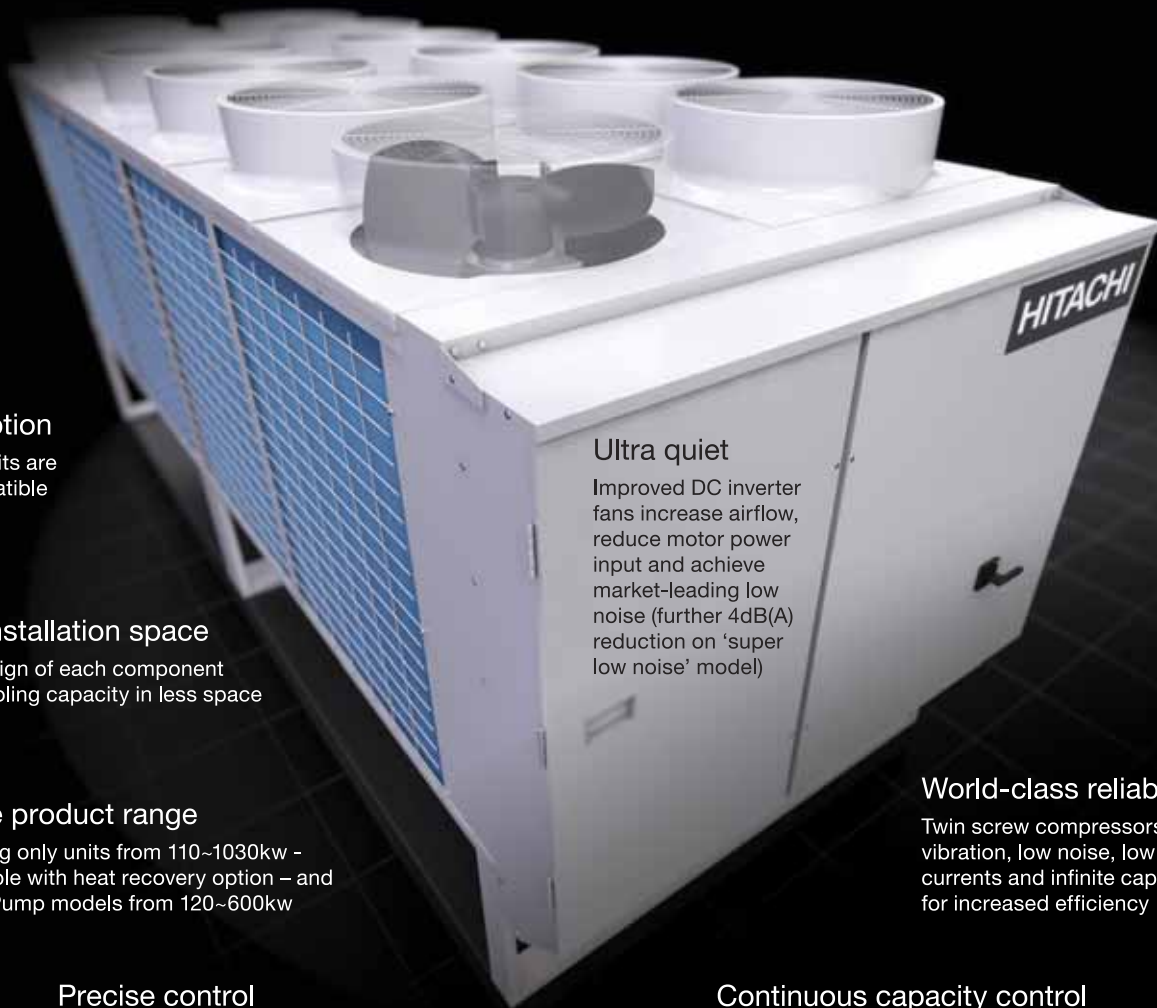
Dublin hosts
CITA BIM
Workshops

Heat recovery
– the debate
continues

Young Irish
Lighter
Awards 2012

The sizing and
selection of
radiators

Powerful yet quiet in its delivery. Meet our newest Samurai.



Hydrokit option

Single cycle units are Hydrokit compatible

Compact installation space

Meticulous design of each component means high cooling capacity in less space

Wide product range

Cooling only units from 110~1030kw - available with heat recovery option - and Heat Pump models from 120~600kw

Precise control

Control outlet water temperature to $\pm 0.5^{\circ}\text{C}$ independent of cooling load (depending on site conditions)

Ultra quiet

Improved DC inverter fans increase airflow, reduce motor power input and achieve market-leading low noise (further 4dB(A) reduction on 'super low noise' model)

World-class reliability

Twin screw compressors, low vibration, low noise, low starting currents and infinite capacity control for increased efficiency

Continuous capacity control

Infinitely variable slide valve for 15-20% energy saving over step control systems and excellent partial load performance

Introducing Hitachi's newest Samurai AG2 chiller unit. With two blade propellers instead of four, it's able to reduce noise and power output as well as increase airflow. It's also smaller than previous units and boasts a number of key improvements for easier servicing and maintenance. Not to mention compatibility with Hydrokit for single cycle units. In short, it's highly effective, powerful, yet surprisingly quiet – meet our newest Samurai.

To find out more call Hitachi on **+353 1216 4406**

Email aircon.ireland@hitachi-eu.com or visit www.hitachiaircon.com

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HITACHI
Inspire the Next

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opinion

So, what's another year?

Retrospectively, it is an opportunity to look back on a 12-month period that was a bit like the proverbial football game of two halves. It started out bleak and pessimistic yet it ended on a much more positive note.

Relative to the extreme low ebb the industry had sunk to, the last quarter in particular was refreshing. Of course it was nothing like the boom times but there was sustained growth in the marketplace, especially in refurbishment and replacement.

Not surprisingly, repair and maintenance is also significantly up with commercial building owners and householders alike seeking to nurse existing systems along. Replacement opportunities will come here too, and sooner rather than later.

Looking to the future, there is much to be optimistic about. Small incremental growth – driven by a mix of necessity and regulatory controls – will be the order of the day.

So, in seeing 2012 out just be glad to have survived and, in looking to 2013, do so with a positive, optimistic outlook. Things can, and will, get better.

Nollaig Shona agus athbhliain faoi mhaise dhaoibh go léir. ■

2013

News and Products

Refrigeration industry shows united force

The refrigeration sector demonstrated once again that it is one of the most united and coordinated sectors within building services when it held a very successful information day in Dublin recently.

Organised by Refrigeration Skillnet with the support of RII and FGR, the occasion comprised an afternoon session with eight speakers making sharp and concise



Caitriona Collins, EPA



Jean Clarke, DECLG

presentations on a vast cross-section of matters relating to the industry. They included David Roome, Fergus Daly, Dave Killalea, Seamus Kerr, Domnick Ward, Philip Byrne, Catriona Collins and Jean Clarke.

Apart from the value of the information imparted, attendees also took advantage

of the opportunity to engage with one another, share opinions, ask questions, and essentially network.

The occasion proved extremely successful and is a model that other industry sectors could well do with emulating.

Hitachi moves to new premises

Due to continued growth and expansion Hitachi Air Conditioning Ireland has moved to new premises located at Unit 9, Bluebell Business Park, Dublin 12.

In addition to larger office accommodation, the purpose-designed unit also incorporates a tailor-made training facility to house the Hitachi Ireland Training Aircademy. This is a very important element of the support service provided by Hitachi and means that installers and dealers can benefit from a whole programme of training courses and seminars. They will run continuously throughout the year,

while dedicated modules on specific products and systems will be available on request.

“We’re very excited about the move”, says Area Sales Manager Fergus Daly, “and especially so as it particularly reflects the steady growth in business over the last six months; we needed these additional facilities to accommodate this growth, and to provide the platform for continued expansion into next year.

“To this end we will continue to maintain a strong marketing presence in traditional media but will

supplement that with increased activity on social media such as Facebook and Twitter, and by offering various apps.

Contact: Fergus Daly, Area Sales Manager, Hitachi Ireland. Tel: 01 – 216 4406; email: Fergus.daly@hitachi-eu.com



Fergus Daly, Hitachi Area Sales Manager Ireland pictured at the company's new offices with David Oldroyd, President and Managing Director of Hitachi Air Conditioning Europe.

Modula to partner AWS

Dublin-based Modula has entered a new partnership agreement with Apex Wiring Solutions (AWS) to provide design, technical and logistical support for its Irish operations.

Modular wiring systems are increasing in popularity due to the pressure on planners, designers and contractors to complete projects under tighter programmes and budgets.

With the gradual shift from traditional to “modern” construction methods, the current market focus is on

faster, more efficient, more environmentally friendly products and techniques.

Over the last decade AWS has developed market-leading armoured and

un-armoured flexible pluggable wiring solutions for commercial, healthcare, educational, Institutional, retail, residential and modular construction projects.

A complete pluggable installation is achieved quickly and safely by simply connecting the system components. Project cost savings in comparison with conventional lighting and general services power wiring methods are claimed to range from 15-35%.

Contact: Paul Falvey, Director, Modula. Tel: 01 – 456 8009; Mobile: 087 – 926 7075; pfalvey@modula.ie



Modula Director Paul Falvey

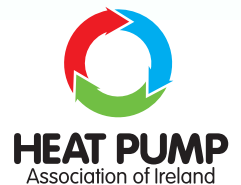
PERFECT PARTNERS



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As a world-wide leader in electronics Toshiba not only develops new technologies but provides products and systems that improve health and comfort. Toshiba designs and manufactures state-of-the-art air conditioning and heating, with innovative technologies in all areas. From superior performance to reduced power consumption, from air treatment to expert technical support.

- ✓ Full stock of heat pumps and spares available off-the-shelf
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- ✓ Technical support available in Ireland by calling an Irish mobile and speaking with an Irish technician
- ✓ 24/7 tech support
- ✓ Text back service (0044 7624 803 017)
- ✓ Fully resourced up-to-date website for all sales and technical manuals



Service as it should be

For further information contact:

GT Phelan

Tel: 01 286 4377

Email: info@gtphelan.ie

Published by GT Phelan, TU Dublin, 2012

TOSHIBA AIRCONDITIONING

Advancing the **eco**-evolution

News and Products

Ryan appointed Murco GM

Murco, the Dublin-based manufacturer of fixed-gas detection equipment, has appointed Derek Ryan

(pictured) as its new General Manager. Derek takes over from Ian Dunlop, a long time employee of Murco, who has established his own gas detection field service company.

Derek is a proven, experienced business leader with over 25 years of management, operations, supply chain and global sales experience in the electronics industry. Since Murco was acquired by Bacharach last year,

the company has experienced rapid growth. Derek's focus will be on improving still further Murco's overall performance.

Speaking about the change Bacharach's President Stacy Brovitz said: "It is with mixed emotions that Ian Dunlop leaves Murco but I am delighted to announce that he is not venturing too far from his roots as he has been appointed Murco's first Factory Authorised Service Provider.

Contact: Derek Ryan, Murco. Tel: 01 – 284 6388; www.murcogasdetection.com



LG Art Cool from DWG

LG's Art Cool air conditioners are efficient and economical to run, are said to produce less noise than standard counterparts, and are available in three colours that are simple and easy to change.

Designed like a work of art with photo-changeable facade, the units deliver even cooling from front and both sides.

Contact: Ian Dennis, Business Manager, DWG. Tel freefone: 1800 email: ian@gascoireland.com



Hevac packaged plant room

Hevac's Commercial and Industrial Division has provided the boilerhouse packaged plant room for the HSE at St Mary's Hospital in the Phoenix Park. Hevac's internal design and engineering team did the overall design for the project, produced AutoCAD drawings for client approval, and completed the entire design and build program to the client's specification.

The plant room in question incorporates two De Dietrich MCA 90 wall hung gas boilers complete with Duomo gas detection, Wilo pumps and pressurisation unit, and all pipes and fittings.

The benefits to the HSE of using Hevac for the complete plant room are reduced on-site labour, elimination of possible damage by other trades, minimum downtime, and a reduction in the use of premium site space.

Hevac's Karl Carrick said that the company is constantly striving to develop the services it provides and that the packaged plant room is the obvious extension to its current offering. Its range of packaged plant room solutions incorporate a number of elements such as:



St Mary's Hospital, Phoenix Park

- Heating plant
- Hot water generation
- Pump rooms
- Generator plant
- Water filtration
- Steam plant for heating or process systems
- Combined heat and power (CHP)

"With over 40 years expertise in the industry", said Karl, "Hevac will deliver a highly-efficient, energy saving, quality solution incorporating the very latest component innovation and energy saving capabilities."

Contact: Hevac. Tel: 01- 419 1919; email: info@hevac.ie

Code of Practice SR 50-2 for building services

NSAI has just published SR 50-2 Code of Practice for Building Services Part 2 Thermal Solar Systems. These guidelines were established to elaborate on the requirements for solar water heating systems, not directly addressed by Part L of the Building Regulations.

The guidelines are intended to assist providers and specifiers of solar water heating systems in the interpretation of the requirements, and to provide guidance as to how the requirements should be addressed.

This document was developed by a working group of representatives from NSAI Agrément, the Department of Environment, Community and Local Government, and the Sustainable Energy Authority of Ireland.

Copies can be purchased from NSAI Standard Sales at Tel: 01 - 857 6730; email: info@standards.ie

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News and Products

OFTEC wants oil technician register

The Department of the Environment, Community and Local Government in Ireland recently launched a consultation on revisions of the Building Regulations which will require the installation of CO alarms in all new dwellings, provide guidance on the type of alarm to be installed, and where to locate them. This is similar to legislation recently introduced in Northern Ireland.

However, OFTEC feels it does not go far enough. Damien Keenan, OFTEC Ireland, said: "While this proposal is positive, a CO alarm is only one of a number of preventative measures that should be put in place to reduce the risk of CO poisoning. An alarm, while important, can give a false sense of security and the best protection is to have appliances serviced regularly by a qualified technician."

OFTEC has also called on Minister Pat Rabbitte to introduce a mandatory registration scheme for oil technicians. This would serve as an additional safety measure for householders, ensuring all technicians, across all fossil fuels, are suitably trained and qualified to detect carbon monoxide and provide competent servicing and installation works.

Magna3 all systems go

Grundfos held an exciting and dynamic product launch in Dublin recently to herald the introduction of the new Magna3 range of pumps to Ireland. Magna3 is a range of small, medium and large circulator pumps fitted with electronically-controlled motors based on permanent magnet (PM) and compact stator technology.

With Magna3 contractors can simply install the pump and leave it on the factory AUTOADAPT setting. It will then analyse the heating system demands and find the optimal setting, thereafter continuously adjusting its operation to changes within the system demand. The result is optimal comfort and minimum energy consumption.

Magna3 pumps are extremely flexible and reliable, and have low noise levels, long life and minimum maintenance requirements.

They are fitted with GENlair wireless communication as standard and can also be expanded to offer extended control options

with Communication Interface Modules (CIM).

Application include air-conditioning and cooling systems, domestic hot-water systems, ground source heat pump systems and solar-heating systems.

Contact: Liam McDermott, Grundfos (Ireland).
Tel: 01 – 408 9800; www.grundfos.ie



Powrmatic high efficiency cabinet heaters

Powrmatic Ireland has introduced the CPx range of cabinet heaters, which are said to combine an enhanced design of combustion chamber with a new three-pass heat exchanger to deliver efficiencies of around 92%.

With outputs from 30kW to 300kW for free-blowing or ducted applications, CPx heaters can be used with natural gas, propane, oil or liquid biofuel – with a choice of on/off, high/low or modulating burners. They are available in either upright or horizontal configuration, and can be installed directly into the space to be heated, sited in plant rooms or specified for external applications.

Free-blowing models are equipped with heads that provide adjustable rotational and lateral jet direction.

Ducted units are provided with an outlet spigot for connection to ductwork and supported by a comprehensive range of return air spigots, dampers and filters. All units have the ability to operate in "fan only" mode for summer cooling.

CPx heaters are supplied ready for automatic operation, complete with safety and comfort control and including optimised start/stop, digital time switch, day thermostat and frost protection thermostat. They can also be used with remote temperature sensors.

For ease of installation, upright heater controls are factory fitted and pre-wired while horizontal and external heaters are supplied with a remote console.

Contact: Powrmatic Ireland. Tel: 01 – 452 1533; www.powrmatic.ie



IPFMA appoints Igoe

Jane Igoe has been appointed Learning and Development Manager by the IPFMA. She takes up the position of IPFMA Skillnet Network Manager, as well as managing both the Higher Certificate in Property and Facility Management course and the CPD events calendar.



News and Products

CIBSE on parade

With a capacity 250 attendance packing out the function room in the Davenport Hotel in Dublin recently for the CIBSE Annual Lunch, it is prove positive that this occasion is now the premier event on the building services industry calendar.

Consultants, contractors and product suppliers rub shoulders in an informal atmosphere where the emphasis is very much on networking, but in a very relaxed and easy-going fashion.

Guest speaker this year was Sean Fitzpatrick, Carillion Energy Services. His address was most informative and pointed to a new way of working and living for industry personnel that is fast becoming the norm.

CIBSE Ireland Chairman Derek Mowlds gave an excellent resume of the CIBSE programme throughout the year (see also page 36), while it would be remiss not to acknowledge the massive contribution Gary McKeown made in organizing the event.



Darren Yourell, Unitherm with David Doherty, Hevac and Declan Kissane, Unitherm.



Guest speaker Sean Fitzpatrick, Account Director for Commercial Energy Services, London with Derek Mowlds, Chairman CIBSE.



Kevin Kelly, DIT with Majella Kelleher, SEAI, David Taylor, IEI and Eugene Phillips, PMC Partnership.

Coal – flying in the face of convention

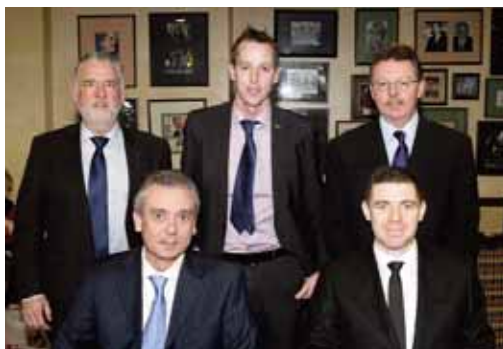
According to a recent report by the World Resources Institute (WRI), 1,199 new coal-fired plants, with a total installed capacity of 1,401,278 megawatts (MW), are being proposed globally. These projects are spread across 59 countries with China and India together accounting for 76% of the proposed new capacities.

State-owned power companies play a dominant role in proposing new coal-fired plant projects, not just in China, but in Turkey, Indonesia, Vietnam, South Africa, Czech Republic and many other countries.

That said, new emissions proposed in the US and a voluntary cap on the use of coal in China could, it is believed, begin to turn the tide.



Sean Dowd, CIBSE Vice-Chairman with Jim Wheatly, McKeon Group, Frank Donahoe, Donahoe Heating Services and Eric Hayward, private consultant.



Back Row: Karl Carrick, Hevac with Mark O'Sullivan and Derek Elton, Wilo and Front Row: Colm McLaughlin, Tube Co and Chris Crowley, HEVAC.



Brian King, Brian King Engineering with Rory McQuillan, Shelbourne Engineering and Eamon McGrattan, McGrattan & Kenny Engineering.

Organisations entering this year's Sustainable Energy Awards have achieved savings of €28 million, according to Dr Brian Motherway, Chief Executive of the Sustainable Energy Authority of Ireland (SEAI). He was speaking as the winners of the Energy Awards were presented in Dublin at a ceremony hosted by SEAI and sponsored by Electric Ireland.

Energy Awards stimulate €28 million in energy savings

“What we are now seeing is a positive effect on business as more and more companies, and indeed public bodies, are working to reduce their energy costs”, said Dr Motherway. “Over 10,000 people are employed in the organisations that entered the Sustainable Energy Awards this year and they are all active proof that sustainable energy is important, not only from a cost-saving perspective, but also for protecting vital Irish jobs.”

The Sustainable Energy Awards reward excellence in energy management by organisations of all sizes and this year attracted almost 100 entries. The joint winners of the Outstanding Leadership in Energy Management Award were Pdraig Traynor, Facilities Manager, Stewarts Care and Pat Mehigan, Facilities Manager, Tyndall Institute.

Stewarts Care won the Award for its multi-faceted retrofit programme, funded through an energy performance contract with Dalkia, saving 11% in energy costs. Tyndall implemented an intensive energy-reduction programme focusing on the

site's significant energy users that resulted in a 30% reduction in energy use and a zero-carbon impact from its new 5,500 sq m building.

Other notable winners included – Astellas Ireland, winner of the Renewable Energy Systems Award, for the installation of a wood chip boiler displacing 90% of its oil consumption and a wind turbine offsetting over 20% of imported electricity; and the Department of Education and Skills for a new primary school facility, Colaiste Choilm, in Tullamore. The school which acquired an A2 rating, is 40% more efficient than a standard school and will serve as a test facility for the Department's school building programme.

Congratulating the 2012 Award winners, Minister for Communications, Energy and Natural Resources Mr Pat Rabbitte, TD, said: “The organisations that have been showcased through the Sustainable Energy Awards are to be commended for their innovation, determination and ultimately success in bringing about meaningful cost and CO2 savings. Initiating change, as many of these companies have, can be very difficult, not least in challenging economic circumstances. But I hope these organisations can truly appreciate the benefits of what they've achieved and I encourage others to learn from their example.”

Commenting on the Awards Bríd Horan, Executive Director, Electric Ireland, said: “The financial savings achieved by the organisations participating in this year's Awards are proof that embracing energy management and engaging staff in energy efficiency projects can greatly improve an organisation's bottom line.”

For full details on the Awards log on to www.seai.ie/energyawards ■



Pictured with Dr Brian Motherway, CEO, SEAI and Bríd Horan, Executive Director, Electric Ireland are Pdraig Traynor (left), Facilities Manager, Stewarts Care and Pat Mehigan (right), Facilities Manager, Tyndall Institute, the joint winners of the Outstanding Leadership in Energy Management Award at the Sustainable Energy Awards 2012.

A multiplicity of customised solutions

...through careful configuration of made-to-order units...



new

coming soon

EWA/YQ~AC

Air cooled inverter chiller
Cooling only/heat pump
> 5 ~ 13 kW
> 5 ~ 13 kW

EWA/YQ~BA

Air cooled inverter chiller
Cooling only/heat pump
> 17 ~ 75 kW
> 17 ~ 75 kW

EWA/YQ~FZ

Air cooled inverter multiple scroll chiller
Cooling only/heat pump
> 80 ~ 350 kW
> 80 ~ 350 kW

EWA/YD~BZ

Air cooled inverter chiller
Cooling only/heat pump
> 250 ~ 580 kW
> 270 ~ 615 kW

EWAD~CZ

Air cooled inverter chiller
Cooling only
> 635 ~ 1,800 kW



new

EWWD~FZ

Water cooled inverter centrifugal chiller
> 320 ~ 1,050 kW

DWME

Water cooled inverter centrifugal chiller
> 1,400 ~ 2,500 kW

DWSC/DWDC

Water cooled inverter centrifugal chiller
> 300 ~ 9,000 kW



EWWD~H-

Condenser leaving water and temperatures up to 65°C!
> Flooded chiller
> 370 ~ 1,215 kW
> 419 ~ 1,356 kW



EWA/YQ~E/F-

Engineered to offer flexible solutions for a wide range of applications
> Flooded chiller
> 130 ~ 675 kW
> 130 ~ 675 kW



coming soon

EWAD~CF

Greater energy savings and reduced CO₂ emissions during cold season
> Free cooling chiller
> 600 ~ 1,565 kW



For more information

Telephone: 01-642 3430 | E-mail: chillers@daikin.ie | Web: www.daikin.ie

Let Panasonic help you meet ErP requirements

From 1 January 2013 the energy performance calculation for air conditioning systems will change from an overall EU-based standard of EER and COP to a new standard based on seasonal efficiencies of SEER and SCOP. The changes in relation to heat pumps will not come into force until 2015.

These changes to the Energy Related Products Directive, or ErP, will give the building services industry a better understanding of the real efficiency of air conditioning and heat pump systems. Here Vincent Mahony, Panasonic Ireland General Manager, gives his assessment of the changes.

“The ultimate aim of Erp is to direct manufacturers of energy-using products to reduce energy consumption and other negative environmental impacts on products at the design stage. These measures are great news for end-users as they will get even more value for every euro spent on energy efficiency. This is also good news for specifiers and installers as they will be seen as bringing these benefits to the end-user.

“Any initiative that drives a reduction in CO2 is welcomed. In the past, the COP or

EER gave a value at fixed points, detailing the efficiency of the air conditioning system or heat pump. This new Directive shows seasonal performance – not the best, not the worst, but the overall performance of the system. The Directive gives a truer picture of energy performance. It is a tougher system of rating but a far better one.

“Installers and specifiers will notice that the energy class will extend to A+++ and the C classification will be banished. Panasonic is already ahead of the game. High efficiency air conditioning products, like our PACi and RAC line-up, will be highly rated when the regulation is introduced.

“The Directive means that all air conditioning products will have to be more efficient. Indoor and outdoor units may also have to be larger to achieve these improved efficiencies. With the PACi system,

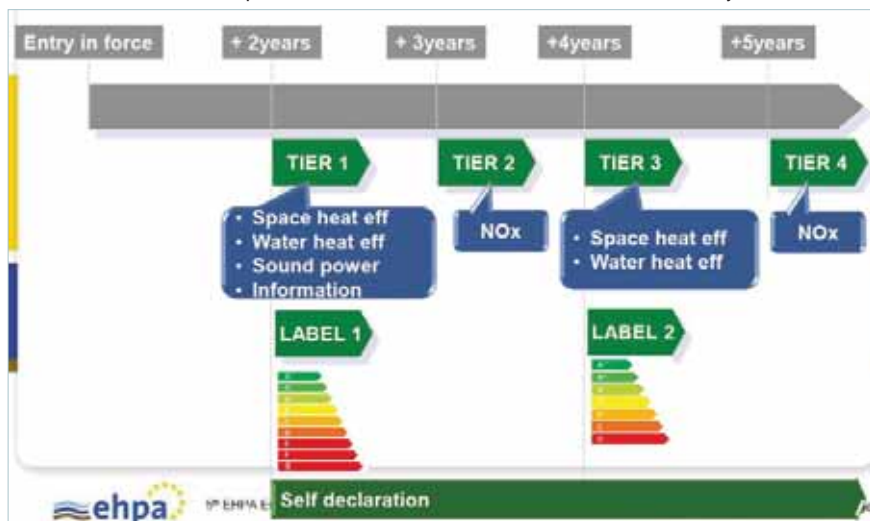
Panasonic had to redesign all its indoor and outdoor units. The move has clearly paid dividends.

“At Panasonic, our coils and fans have been upgraded to the levels of energy efficiency demanded by the Directive. In some cases motors have also been switched from AC to DC. Some installers may well stick to their old brands for key projects but it is the budget products that they will let go. Consultants and end users will look for the ErP mark and installers will follow suit.

“At Panasonic we are confident that we can meet the needs of the end user in these demanding times. We have a fantastic line-up of energy efficient products in air conditioning and heat pump technology. With the rising cost of oil, consumers are beginning to recognise the great potential of air source heat pumps. Installed together with photovoltaic systems, they make a great combination and can have a significant impact on reducing heating bills, especially in the social housing arena. Our recently-launched Aquarea range really does fit the bill here, offering class-leading energy savings.

“As the recovery gathers momentum, energy efficiency will continue to be a key factor. This is something that’s not going to change and at Panasonic we are leading the way to meet that challenge”.

Contact: Vincent Mahony, Panasonic Ireland. Tel: 01 – 413 5311; Mobile: 087 – 969 4221; email: vincent.mahony@eu.panasonic.com ■





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Rooftop Building Services Support Systems



Site assembled walkways and step-over solutions for accessing plant and services



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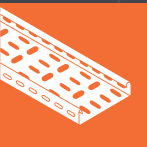
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Freefone: 1800 443 210

www.dwg-deanwoodgasco.com



Data centre peace of mind by Core AC

While devising appropriate and tailored solutions for indoor environments is essential no matter what the application, there is no denying how critical it is in respect of data centres and computer rooms. System failure and downtime simply cannot be tolerated in such instances as the consequences can be catastrophic from both a performance and cost point of view.

Consequently, it is perhaps the most complex area of building services and one which requires specialist attention based on experience, knowledge, technical know-how and product quality. Core Air Conditioning is one of the few companies operating in the field who match this exacting criteria.

Core has a long-standing reputation as one of the leading market players providing customised indoor environment control, and is especially renowned for delivering comprehensive turnkey packages for data centres and computer rooms. It has a wealth of experience and technical expertise in the field, thanks to its own highly-qualified, in-house engineers, and its partnership with the global Emerson Group and, by extension, Liebert.

Whether it is a new build or retrofit situation, Core engages with the client, the consultant and contractor (as appropriate) from the earliest possible stage, and only proposes a solution when all the relevant parameters have been thoroughly discussed and clarified. Invariably they include free-cooling chillers, cold aisle containment, modulating in-row cooling units, high-efficiency UPS systems, etc

Key issues considered at the design stage are power, cooling, metering,

procedures. Core's pro-active maintenance programmes can significantly extend the life of the power systems, decrease capital investment, optimise system efficiency and effectiveness, and increase overall system availability. This is done by way of a combination of the following:

- Preventive maintenance;
- Remote monitoring;
- Professional assessments;



Emerson Network Power offers a complete menu of service options for data centres to meet any specific need.

monitoring, fire suppression, leak detection, etc. These are then analysed in relation to the specific needs of the client to help identify gaps in power and cooling infrastructure, reduce operating costs, improve IT system availability, and plan for additional IT capacity.

Core also offers a full range of professional assessments, electrical testing and service management support, not just to prevent downtime, but to enhance data center performance while containing energy-usage costs.

Indeed, underpinning the entire process is the system's power usage effectiveness (PUE). When designing the technical spec for the project, capital costs and day-to-day operating costs are considered in equal measure to system performance and reliability.

This emphasis is also carried through to ongoing maintenance

- Upgrades;
- Efficiency of emergency response;
- Service management and support.

Continuous on-site and in-house system monitoring prevents major system failures. Potential problems are invariably flagged quite early so they can be dealt with quickly and efficiently before they become a major issue. To that end Core offers 24-hour call-out, seven days a week, 365 days of the year. It also has its own dedicated engineers who liaise with, and respond to, the client's Facilities Manager directly.

Apart from optimised system performance, trouble-free operation and excellent energy usage, what Core Air Conditioning provides most of all is client peace of mind.

Contact: Austin McDermott, Core Air Conditioning. Tel: 01 – 409 8912; email: austin@coreac.com; www.coreac.ie ■

New generation Daikin VRV IV raises benchmark

Daikin's new-generation VRV IV series achieves a new benchmark for efficiency as it features three revolutionary innovations – variable refrigerant temperature, continuous heating on heat pump, and the VRV configurator for simplified commissioning.

Variable refrigerant technology

means the system can be customised by the installer using a choice of presets to optimise the energy and comfort balance for each project. In automatic mode, the system is configured for the highest efficiency levels throughout the year, while allowing rapid response on the hottest days. This technology delivers a 25% increase in seasonal efficiency because the system continually adjusts the refrigerant temperature according to the total required capacity and the external weather conditions.

Continuous heating during defrost is another innovation that sets a new standard in heating comfort. This feature overcomes any perceived disadvantages of specifying a heat pump, because the heat pump continues to provide heating even when in defrost mode.

Why is this important? All heat pumps accumulate ice during heating operation, which must be melted periodically. Previously, defrost operations reverse the refrigeration cycle, causing a temporary temperature drop within the room. VRV IV features a unique heat accumulating element which provides dedicated energy for the defrost function. Consequently, the

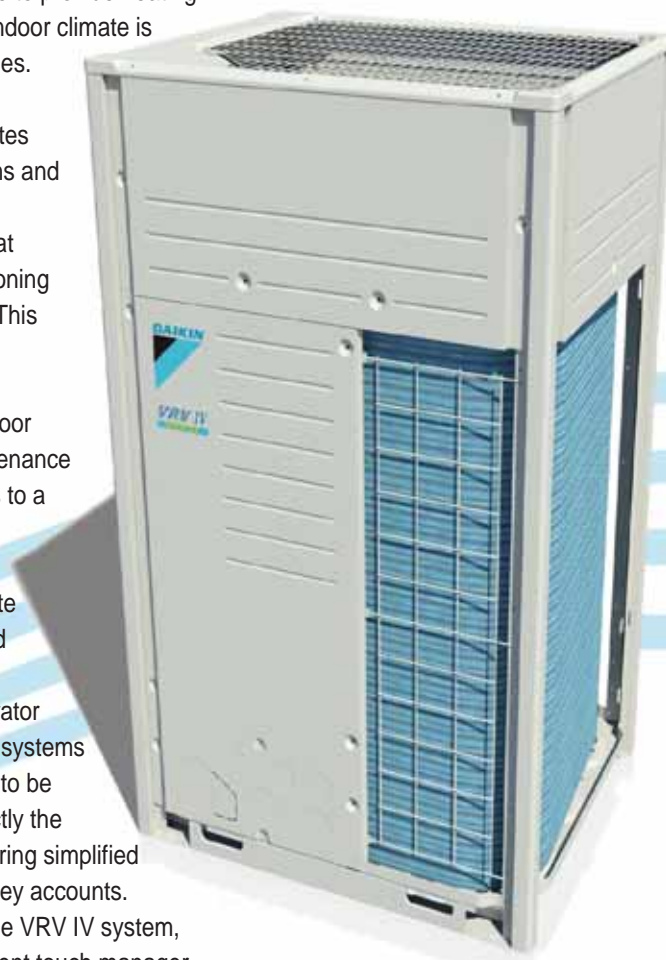
indoor units continue to provide heating and a comfortable indoor climate is maintained at all times.

The new VRV configurator completes the trio of innovations and offers an advanced software solution that simplifies commissioning and customisation. This means less time is required on the roof configuring the outdoor unit. Ongoing maintenance is easier too, thanks to a graphical interface that allows engineers to evaluate operational data and errors.

The VRV configurator also allows multiple systems within multiple sites to be managed all in exactly the same way, thus offering simplified commissioning for key accounts.

To complement the VRV IV system, Daikin's new Intelligent touch manager offers an intuitive user interface with a visible floorplan. This can manage up to 2560 groups of indoor units and provides energy management tools to maximise efficiency.

The VRV IV system can be used together with a wide range of ventilation units, hot water hydroboxes, Biddle air curtains and Daikin's latest round-flow cassettes, which feature a daily auto-cleaning filter that reduces energy consumption over the year by up to 49%. The round flow cassette is also available with a presence sensor that adjusts the set point or switches off the unit when nobody is in the room, saving a further 27% in energy consumption.



Daikin's new-generation VRV IV

Contact: Mark Smyth, Daikin Europe NV (Ireland Office). Tel: 01 – 642 3430; Mobile: 086 – 852 5101; email: smyth.m@daikin.ie ■

eQ PRIME Air Handling Unit

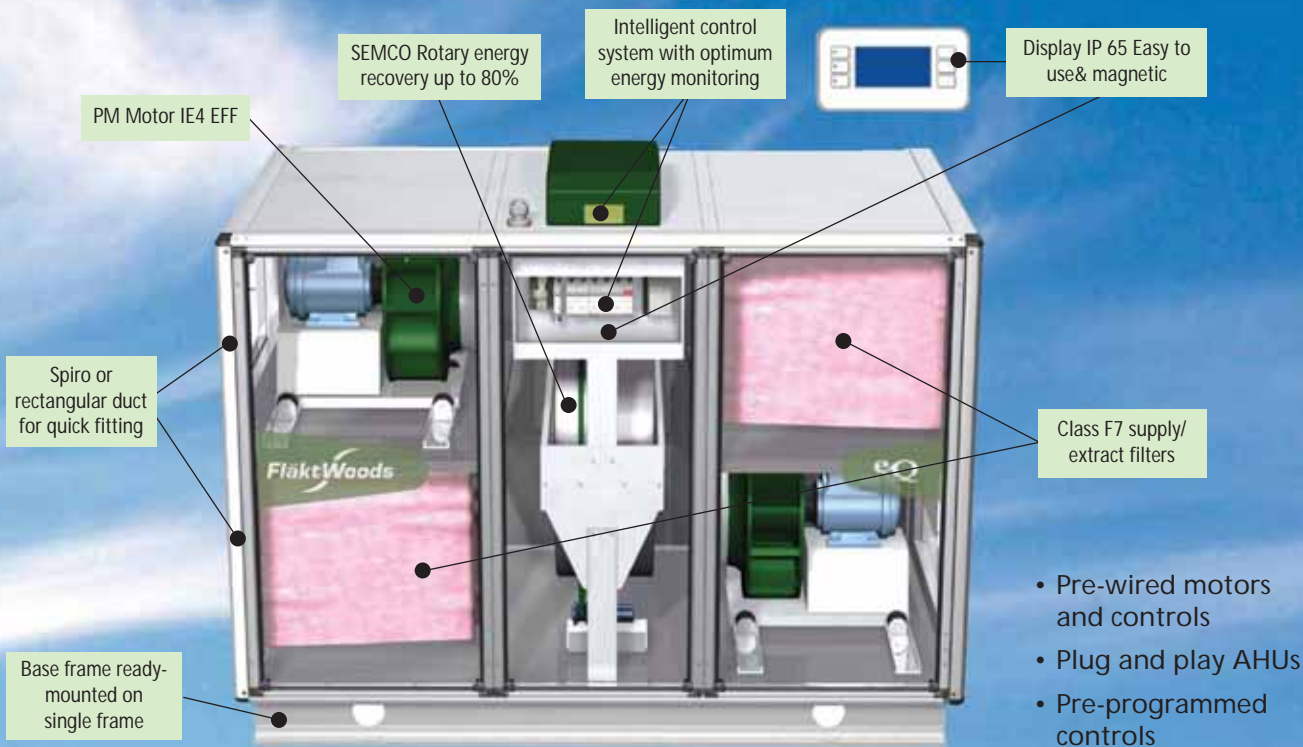
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Flaktwoods, a leading global supplier of energy efficient air climate and ventilation systems, has launched the new eQ PRIME range of air handling units, designed to reduce capital costs and optimise energy savings.

The eQ PRIME contains newly-engineered, maximum energy efficient permanent magnet motors (IE4 compliant) which contribute to lowering specific fan power volume (SFPv) and potentially reducing the overall size of the new unit.

Fully compatible with building management systems (BMS), the eQ PRIME also benefits from a variety of control and adjustment functions, including energy monitoring systems, energy saving summer night cooling mode, temperature regulation and cooling recovery.



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Energy optimisation is an important aspect of ventilation where Fläkt Woods has widely recognised expertise. We use highly efficient products and solutions, which serve the dual purpose of saving both the environment and your long-term economy.



Fläkt Woods has the capability to combine energy efficient (e3) products into fully integrated (i3) systems.

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Big Foot plant support systems

Low cost, big results, no limits

Big Foot Systems designs and manufactures free-standing systems to support plant equipment and services installed on flat roofs. The range of support products provide a quick, versatile and economical solution for HVAC, solar units and access equipment with its simple, safe and secure non-penetrative, prefabricated roof support systems. "We have developed a strong working relationship with Gasco (now DWG), our distribution partner in the Republic of Ireland", says Dan Rushton, Big Foot UK Commercial Manager. "This is demonstrated by the number, frequency and diversity of projects we have completed over recent years. Our products and projects have ranged from custom heavy-duty pipe supports in Athlone to standard and bespoke support frames for VRF's, AHU's and Chillers across Dublin".

Big Foot Systems launched in 2001 with the introduction of simple frameworks to support condensing units. The

company's aim was to provide an easy and economical alternative to poured concrete and concrete blocks for supporting plant on a flat roof without penetrating or damaging the roof surface. The result was a cheaper, safer, less intrusive and quicker-to-install alternative.

The on-site flexibility of the framework systems proved popular and the product range was developed to include cost-effective supports for duct and pipework runs. Two simple walkway systems were also added to offer a secure route for service engineers and other personnel.

The company now offers a complete support solution for plant equipment on flat roofs, with an experienced technical support team, selling internationally through distributors in over 25 countries.

Big Foot Systems sets the standard on any installation while meeting the needs of architects, consultants, engineers and contractors. There are any number of options available, the HD Cube, VRV/VRF Frame and HD Beam among them.

HD Cube

The HD Cube offers a complete, efficient and robust solution for supporting heavier services on flat roofs such as large plant rooms, chillers and large air handling units. The HD Cube provides a simple approach without the necessity of casting traditional concrete plinths early on in the construction.

VRV/VRF Frame

Developed for the siting of most major manufacturers VRV/VRF systems, this lightweight and easily-assembled modular frame system is quick to install and provides a robust and secure method of support. Manufacturers units currently covered include Mitsubishi, Hitachi, Daikin, Toshiba and Samsung.

HD Beam

The HD Beam was developed as a lighter weight companion to the HD Cube. Typical applications include large chillers, large air handling units and heavy pipes and services. HD Beam is a robust but flexible solution where space may be limited, or there is a requirement to position directly over existing structural roof beams. With M24 stud built into both legs to accommodate roof falls, the requirement for additional adjustment is not usually needed. An optional, "quick fitting" Clamp Kit ensures a rigid fix.

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Hitachi ErP compliant ahead of deadline

The Eco-Design of Energy-related Products (ErP) Directive provides consistent EU-wide rules for improving the environmental performance of energy related products by requiring integration of eco considerations at the outset of product design, ensuring reduced energy consumption to benefit both businesses and consumers.



These regulations include air conditioning products, which are a key source of energy consumption in buildings, and require all manufacturers to calculate energy usage in a more realistic way, moving from nominal to seasonal, creating a more accurate calculation and representation of products in the market.

Hitachi has always engineered the most environmentally-friendly heating and cooling products and has now introduced a complete range of fully ErP-compliant air conditioning products. Where product ranges and models fall outside the scope of the ErP Directive (<12kW), there are a series of enhancements for RAC, Set Free, Utopia and Chiller, in particular IVX Premium and Hi-Efficiency VRF, which are market leaders in Japan's Annual Performance Factor (APF) for seasonal efficiency.

VRF without the price tag

IVX and IVX Premium offer high seasonal efficiencies, as well as complete flexibility, with all outdoor units from both ranges being fully compatible with the System Free range of indoor units. Hitachi's IVX technology has all the benefits of VRF, including individual control of each indoor unit with an increased number of twin, triple and quad combinations, in addition to delivering excellent part-load efficiency.

With cooling capacities and heating capacities from 2HP to 12HP, a maximum of eight indoor units are connectable to a

single outdoor unit, with individual control and efficiencies achieved as high as A++/A+ (depending on model/combinations).

Future-proof installations

In addition to the Set Free FSXN series, which offers two-pipe heat pump and three-pipe heat recovery options from a single unit, Hitachi has introduced a new high efficiency series with greatly-improved efficiency levels and increased piping lengths. With capacities from 5HP to 36HP, there is a model for every building and all are fully compatible with System Free indoor units and controls.

Flexibility built in

The System Free range of indoor units is fully equipped with all the latest technologies such as EC motors and PID expansion valves, as well as compatibility with the complete range of individual, group or BMS-style controls to complement the IVX, IVX Premium and Set Free outdoor units

Residential room air conditioning

All Hitachi's RAC units offer high seasonal efficiencies, with the Premium range achieving the highest level of energy efficiency in the European market (SEER A++ 8.13/SCOP A++ 4.72). The range, equipped with functions such as human sensor and stainless clean filter, features the latest energy-saving technology utilising Hitachi's high-efficiency scroll

compressor and PAM control.

In addition, a new remote controller is available, with eco mode and power consumption display for homeowners to monitor and take control of their energy usage. The standard range also has energy efficiency levels as high as A+/A+, while a new indoor unit with a stylish design has also been added the range.

Samurai powerful, yet quiet

Alongside the existing Samurai series, new high efficiency models using R134a refrigerant will be launched in 2013, delivering 30%-50% better SEER than the current model. Key product features are an upgraded multi-functional touch screen control panel, modular design where up to eight units can be connected (up to 1300kW) and, where space is tight, its unique "T" and "L"-shape configuration will facilitate installation flexibility.

Fergus Daly, General Manager, Hitachi Ireland says: "Hitachi has always put environmental considerations at the heart of its research and product development, and the latest models achieve the requirements of ErP ahead of the 2013 deadline."

Contact: Fergus Daly, Hitachi Area Sales Manager Ireland. Tel: 01 – 216 4406; email: fergus.daly@hitachi-eu.com ■



*Frank Donohoe is widely known and respected throughout the radiator sector where he has over 30 years experience with the leading market players. He is now the owner of Donohoe Heating Services, a company formed to support and advise architects, engineers, contractors and end users in the correct sizing and selection of heating systems for domestic applications.
t: 01 – 846 0586;
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The sizing and selection of radiators for domestic heating systems

An observation by Frank Donohoe

Central heating systems utilising radiators remain a simple, yet functional, solution to comfort-provision in the majority of domestic applications. Central heating radiators come in a vast array of styles, shapes and materials, from basic round-top and compacts to the more design-led multi columns, vertical panels and columns, etc.

Towel radiators have become almost standard for bathrooms and there are several styles available, with a chrome finish becoming more fashionable. Stainless steel models are also entering the market and are particularly suitable for applications where the towel radiator is fed from the secondary services circuit.

With so much choice available the designer must interpret the client's brief accurately. With the advent of on-line

searching and purchase, clients can get overcome and confused with the amount of choice available. This is where the designer must advise based upon experience, professionalism, and indeed common sense.

A pre-tender meeting is a good starting point to ascertain the client's preferred style or budget options/restrictions. This also prevents over ambitious selection and potential time-consuming re-selections when the project commences on site.





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for modern living



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It further prevents the client from getting enthusiastic over non-suitable or impractical options.

I usually sit down with the clients to see how they will be “living” in their homes. By this I mean how they live as a family – what rooms they principally use day-to-day? Do they want to have some feature radiators in key rooms? Have their childrens’ bedrooms become living spaces, for study, socialising and general recreational activity? All of the aforementioned need to be reflected in the final design and specification.

Since becoming more involved within the domestic sector of the industry I have noticed several “habits” which are not necessarily good practice but seem to be proliferating within this area. There are two key areas of concern I come across regularly – heat loss and radiator output.

When one mentions heat loss, rules of thumb are used in most cases. There is nothing wrong with a rule of thumb estimate as long as it is recognised as that and not a detailed calculation of the heat requirement. It may be fine for establishing a budget but should not replace correct sizing and specification of plant.

A lot of domestic installers simply multiply the volume of a room by a “factor” often between 7 and 10. Some do not even realise this is based on the old Btu’s per cubic foot model.

Others use various “calculators”, which in themselves may be fine, but the difficulty is that there are no records of the design criteria utilised nor room dimensions, etc. In the event of an issue arising there is no discussion document available and this makes dispute-resolution more difficult.

Both of these options do not represent a professional response to

establishing the correct radiator size for a given room. These can lead to incorrect sizing of radiators with consequent reduction in performance and lack of comfort for the client.

There is no real alternative to a detailed calculation and the correct sizing of the radiators.

Where over-sizing is a result, it could be argued that TRV’s would control the output. This is true, but if the radiators are larger than they need to be, they will be more expensive. In the current competitive climate this could see the job going elsewhere.

I have also noticed considerable confusion in the output interpretation of a radiator’s performance. Sometimes when delta t (dt) is mentioned a mist appears. “Sure I always use the dt60°C because I get more output from the radiator” is a common response. Delta t60°C is based on the following temperatures – flow 90°C; return 70°C; and room 20°C – and was the basis of the old BS3528 Standard.

This was superseded in 1997 by the new/current standard EN 442. This is based on a dt50°C – flow 75°C; return 65°C; and room 20°C.

The “perceived” performance difference between dt60°C and dt50°C can give rise to a reduction in output of circa 20% (for 1000 watts required you would need to select 1200 watts @ dt50°C), which would have a significant impact on the heat input and comfort of the room.

This has been further complicated in recent times with the use of condensing boilers. In order to achieve the maximum efficiency of the boiler, it should operate in condensing mode and this is typically – flow 55/60°C and return 35/40°C, giving dt’s in the range of 25°C to 30°C. From the base of dt60°C this further increases the “reduction” to circa 55/65% (for 1000



watts required you would need to select 2500 to 3300 watts).

The above figures are for guidance and will vary between manufacturers and the specific exponent for the radiator type. The example from dt60°C is utilised to illustrate the potential performance issues that can arise in domestic applications.

In practice, modern condensing boilers can modulate their performance range from the lower temperatures (55/35°C), where maximum efficiency is achieved, to more normal operating temperatures which have no impact on the radiator’s performance. The ultimate selection of the radiator must be a balance between common sense and best achieving the design brief of the client.

Heat pumps have similar, albeit a greater, impact of the radiator sizes.

All new technologies are a step into the unknown for most end users and they frequently have an over estimation of the benefits and lack of understanding of the basics involved. This is where we, as the professionals, need to advise our clients on the specifics of our design and explain to them so they understand the principles behind their installation. ■

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Panel Radiators



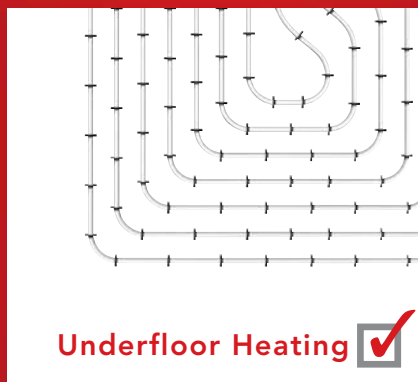
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Designing and installing energy efficient heating solutions are essential parts of reducing energy consumption in buildings and, ultimately, achieving national targets for reducing CO2 emissions. As an innovative and responsible company, Myson fully supports this commitment and has designed a range of innovative, efficient products that are capable of operating effectively at lower flow temperatures.



Myson Radiators – combining innovative designs and styling with traditional strengths

The **ECO seal** of approval for Myson panel radiators indicates their compatibility with all renewable energy sources and is therefore proof of their economically and ecologically efficient heat emission.

The Myson radiator portfolio extends from practical and traditional ranges right through to the latest in fashionable designer developments, including a comprehensive choice of towel warmers. All are guaranteed to be both functional and to create a focal point in any setting.



They have been developed out of today's fresh thinking on radiators and towel warmers, viewing them as decorative items and not just heating devices. From contemporary chic to rural tradition, Myson has a solution for every application.

Every Myson product is designed with the customers' needs in mind and manufactured to the most rigorous quality standards. That's why there is a 10-year warranty on all radiators and towel warmers.

When it comes to stunning looks, impressive performance and sheer dependability, the Myson range of panel radiators sets new standards. Whether standard or compact, the Premier and Select flagship products deliver high heat outputs with low energy consumption, and are extremely popular with installers and end-users alike.

For instance, the Premier HE is one of the best-selling round-top radiators on the market. It is elegant, versatile and highly-efficient, and is suitable for both domestic and commercial applications. It is available in imperial and metric sizes.

Dependable and reliable, the Select is a popular range of seam-top radiators available in standard and in compact models.

Then there is the Myson LST range. Here safety is paramount but the design styles make sure that there is no compromise on either performance outputs or aesthetics.

When it comes to column radiators, the traditional column-style Myson radiator is manufactured using unique laser-welding technology. It is available in vertical and horizontal formats with various heights and widths.

Other examples are the versatile Fowey and Luane ranges. Fowey is a classic flat-tube design while the Luane is an efficient and attractive round tube style. Both can be installed horizontally or vertically.

Then there are the towel warmers. Wensum is a flat-tube, ultra-practical towel warmer, one of six models from the modern stainless steel range. As an increasingly popular and exciting material, stainless steel is non-corrosive and delivers high heat outputs.

On the other hand Champlain is a square-tube towel warmer with integrated flat tube radiator – the ultimate in practical bathroom heating.

The aforementioned are but a brief selection from the vast Myson radiator portfolio available in Ireland from Potterton Myson Ireland. However, you can see the full collection on www.potterton-myson.ie

Contact: Potterton Myson Ireland. Tel: 01 – 459 0870; email: post@potterton-myson.ie ■

Left: Premier Compact from Myson, the ultimate in compact radiator design. Above: The dependable and reliable Select Standard.

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Gavin Westworth, Energy Manager and expert in pumping at Xylem Water Solutions, argues that calculating demand is the key to offering real value with an energy audit.

Demand is the key to energy efficiency, not just VFDs



Back in the 1990s Arthur Andersen's consultants were known as Andersen's Androids because their prescription for company corporates was always the same, regardless of the sector or the problems the company faced. The solution was always to slash the cost base.

Much the same is now happening in the water industry with energy consultants claiming to be able to drive huge savings in energy costs. The problem is that their prescription is all-too-often the same, namely: replace that fixed speed pump with a variable frequency drive (VFD).

Unfortunately, this "one-size-fits-all" solution takes no account of the interaction between the pump (or pumps) with the pipework system through which fluid is transferred from source to destination. There are only two ways of reducing energy losses in pumping systems – either reduce friction losses in the pipework and fittings, or increase the efficiency of energy conversion from electrical input power to fluid power (pressure and velocity).

The much-prescribed reduction in speed may reduce energy consumption, but then again it may not. By reducing pump speed the flow rate will drop, but the benefit of reduced fluid friction is often outweighed by the fall in efficiency of the motor/pump unit. It is an incorrect assumption that power varies as the cube of speed, or that pump efficiency stays constant with changes in speed.

Calculation of "achievable benefits" by speed control cannot be carried out without details of the performance characteristics of the pump unit, together with its interaction with the pipework system in which it operates.

If the pump's job is mainly overcoming friction in the pipework system, then speed reduction will bring about a substantial reduction in specific energy (energy required to transfer a unit volume of liquid). However, if there are level changes between source and destination, as is often the

case, then the change in pump speed can result in higher energy consumption.

Furthermore, in multiple pump installations, informed decisions must be made about changeover points and optimised speeds. It is by no means uncommon to find a situation where it is more efficient to run one pump at full speed than two pumps at lower speed.

If the pumped liquid contains solid matter, care must be taken to ensure that fluid velocities are sufficiently high to transport the solids efficiently. A VFD that allows prolonged operation at low speed may show considerable savings in energy consumption but will increase the probability of pump blockages, rag build up in the station riser pipe and valves, and settlement in the rising main.

There are many reasons why pumping systems operate inefficiently. The pump may be a poor match with the latest demand for water or wastewater, or it may be in poor condition. There may be high fluid velocities in pipes and fittings or the control system may not be optimised.

The key to an energy audit in a pumping system is understanding demand. Many systems were designed for "worst possible case" – a condition that rarely, if ever, occurs. This condition may still be relevant but consultants should assess how much flow is required and when. Real value from audits can only be derived from identifying how the three elements of the pumping system – namely the pumps, the pipework system and the control systems – work together to meet that demand most efficiently.

Only by looking at the interaction of these elements is it possible to identify the unnecessary losses and how best they can be reduced or eliminated. Simply, prescribing VFDs as the panacea for all known energy efficiency problems will not deliver real value to the customer.

For information about Xylem's TotalCare services call 01- 452 4444; email: flygtIRL@xyleminc.com, or visit www.xylemwatersolutions.com/ie ■

Saving the environment with sustainable solutions

Unitherm Heating Systems is one of Ireland's leading suppliers of innovative, sustainable, heating systems. It has a portfolio of top-quality products from renowned European manufacturers, and delivers custom-designed heating solutions incorporating high-efficiency, engineering-led, technologies. It initially concentrated on underfloor heating for domestic and commercial installations but now offers fully-integrated solutions which include complete control packages.

Every system is individually-designed and supplied with full mechanical and electrical CAD drawings. Indeed, a key strength of the service provided is its ability to interface with, and support, both the electrical contractor and heating installer, right through to final commissioning.

The product portfolio includes established, market-leading, brands such as Alpha, Solartherm, Daikin, Mitsubishi Electric, Oventrop and Worcester Bosch. The choice of solutions offered is extensive, with products and systems available to cater for all manner and size of application.

Unitherm can design systems using combined heat sources such as Solartherm panels, heatpump and a boiler or solid fuel stove etc. This can be achieved through their Eco-combi multi-energy tank which will allow up to three heat sources. The whole system can be controlled by using an advanced Merlin Control & Regulating Unit which combines various open-loop and closed-loop control functions. In addition to the weather-dependent control of the boiler and the heating circuits, it also naturally controls the hot water supply, allowing hot water to be controlled at various times and temperatures over a 24-hour period.

On the boiler side, Alpha high-efficiency condensing boilers offer a comprehensive range of Sedbuk Band A rated combination, system and regular gas boilers with outputs from 12kW up to 115kW. Apart from new installations, the Alpha range is ideal for retrofit and refurbishment as older,

inefficient boilers can be replaced without the need to replace pipework.

Alpha has a pedigree going back 40 years with a reputation for constantly introducing innovative products incorporating cutting-edge technology. This is particularly true of its renewables products which are specifically designed to be compatible with the core boiler ranges. The Alpha GasSaver, FlowSmart and Alpha SolarSmart are typical examples.

GasSaver is easily installed between the boiler and the flue and delivers hot water savings of up to 37% and gas consumption reductions of as much as 52%. It also reduces plumbing as gases expelled through the terminal are significantly cooler, which in turn saves energy and helps the environment.

SolarSmart also delivers impressive energy-related savings by making solar-based domestic hot water heating more accessible and cost-effective than ever before. The system consists of a solar collector panel, drain-back unit, solar cylinder and solar valve. All items are WRAS approved and come with a 10-year guarantee, provided all recommended installation guidelines are followed.

Then there is the Altherma air to water heat pump from Daikin. Using proven heat pump technology, Altherma utilises naturally-occurring energy from the air and uses this to provide domestic space heating and hot water. It is easy to install and reduces CO2 emissions by up to 50% while delivering savings of 30% on home heating running costs.



Alpha gas condensing boilers with gas saver.

Meanwhile Worcester Bosch is one of Europe's longest-established heat pump specialists with a reputation for developing innovative heat pump solutions dating back over 30 years. It offers an extensive range of heat pumps designed to extract heat from everything from soil, rock, water and outdoor air right through to ventilation exhaust air. It also has a strong history of collaborating with other world-leading brands in related areas of expertise.

Taken together, the foregoing represents what is undoubtedly one of the strongest heating portfolios available in Ireland. When combined with the expertise and experience of Unitherm Heating Systems' personnel, it makes for a formidable market force offering infinite heating solutions for types of application.

Contact: Unitherm Heating Systems.
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email: info@uni-therm.net ■

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

Henrad from Hevac – beautiful radiators for modern living

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

Brief details of each of the ranges are as follows:

- **Verona:** Manufactured from 1.5mm thick steel, Verona offers visual appeal combined with advanced technology, while providing a contemporary solution for a huge range of applications. With a choice of four types and a variety of sizes and outputs, the Verona allows extensive flexibility of siting, while breaking new barriers in heating efficiency.
- **Column:** The most modern execution of a traditional concept, this classic style brings innovation and reliability to a high-performance design. Vertical and horizontal options offer a modern alternative to a traditional panel radiator, and will enhance both contemporary and traditional settings.
- **Everest Line:** With its flat front panel featuring pleasing horizontal lines, the Henrad Everest Line radiator offers contemporary good looks, adding a new dimension to any room.
- **Alto Line:** The Henrad Alto Line radiator incorporates all the features of the Henrad Everest Line but with a vertical line design.
- **Compact:** With a slim profile and smooth, white finish, Henrad Compact radiators will blend into any room in the house, to provide guaranteed heating performance.

Contact: Garrett White, Director, Hevac. Tel: 01 – 419 1919; email: garrettwhite@hevac.ie; www.hevac.ie ■



IPFMA NEWS



IPFMA Skillnet

Now in its second year, IPFMA Skillnet provides regular educational courses and forums to meet the property and facility management sector's broad range of training needs, the employability of its workforce, and member company competitiveness.

IPFMA Skillnet presently includes open courses to meet member priority training needs; in-house training, which is grant-assisted; on-line courses designed to provide flexible self-paced learning; and learning and development expertise. This covers information and advice on best practice learning and development that includes needs analysis assistance, training plans and training solutions.

There are also networking opportunities, such as specially-structured events to promote shared learning between employees at all levels within a company, as well as between network member companies. Most importantly, IPFMA Skillnet includes jobseeker support.

The open training course calendar is on our website at www.ipfma.com/ipfmaskillnet and members can identify those of most use to them. We are currently seeking to enhance it for regional members by developing additional on-line learning platforms and recorded events.



Above: Members preparing for the clay pigeon shoot at the K Club Members' Day.



Right: At the IPFMA Annual Conference were Byron Lewis, Lewis Commercialisation, Vincent Hickey, IPFMA Vice-Chairman and Fergal O'Brien, IBEC Chief Economist.

Meet the Members Day 2012

Members thoroughly enjoyed the inaugural Meet the Members Day at the K Club in Kildare. The day's outing included a range of activities, such as golf and clay pigeon shooting, ending up with an evening dinner and prize presentation. Special thanks to our sponsors Burlington Engineering, SOS Cleaning Services, Executive Express Coaches and IPFMA Skillnet.

Annual Conference 2012

This year's IPFMA annual conference was a tremendous success. More property and facility management and other professionals attended than ever before, with over 160 delegates convening at Croke Park for the one-day event.

Titled *Property: A New Approach*, it focused on new approaches to commercial property and facility management, in particular the vitally-important area of managing assets effectively in the context of the current ill-health and growth prospects of the Irish economy.

MIPFMA Higher Certificate course success

There was a marked increase in applications this year for the new two and a half year educational course, the IPFMA Higher Certificate in Property & Facilities Management (Level 6) programme.

There was an intake of 23 new students for the September 2012 programme, with classes being held at DIT Bolton Street and Aungier Street. The course is accredited by DIT Bolton Street and the first of its kind in Ireland. Second year students continue to progress well.



Above: Meet the Members Day at the K Club in Kildare.



In my opinion ...

with **Ciaran King**, Chairman, Irish Ventilation Industry Association (IVIA) and Managing Director of Digren

Mechanical ventilation with heat recovery (MVHR) has been around for over 50 years but it is still a relatively new technology to the Irish market. For some reason when heat recovery units (HRVs) first emerged in any kind of volume on the Irish market in 2005, they were not taken on by the traditional ventilation industry. Instead it was the renewable energy sector that took them up. From the outset they were established as a renewable energy which begged the question – what was the payback?

Heat recovery – the debate continues

The answer, although this point will be strongly argued, is that there is no payback. Ventilation is NOT a renewable energy. It is a mechanical device which uses energy to ventilate a building. It is, however, an essential component of any building and will indirectly help save energy overall by allowing you build with high levels of insulation and airtightness.

MVHR systems should be a simple process but unfortunately there are many issues that can arise and cause problems. However, if each step of the process is controlled, these problems can be eliminated. The key elements to having an effective MVHR system are as follows:

Specification

A detailed specification should be prepared, not just for compliance with Part F of the Building Regulations but to ensure that the system will be fit-for-purpose and provide “adequate” ventilation for the occupants and the dwelling. The specification should cover the unit and the air; what airflows above the minimum standard are required (if applicable); the ventilation capacity of the unit; and the ducting type and its dimensions.

If sections of the air distribution or the unit are in an un-insulated section of the dwelling and require insulation, this should be specified and not just relied on as being

a regulation. The required efficiency across the exchanger and the noise levels should also be specified. It is equally important that the specification is achievable from an installation perspective, particularly in regard to the air distribution.

In regard to the noise level, there is no point specifying that the system must be less than 25dB(A) unless a significant budget is in place to facilitate this. Specifying that noise levels from valves must not exceed 28dB(A) on the low setting and 30dB(A) on the high setting is very realistically achievable.

Design

A detailed specification will enable a detailed design. In many cases the specifier may well be the designer of the system. The design should clearly show the location of the unit, primary supply, primary exhaust and the air distribution system. It should state the exhaust and supply airflow rates in the relevant rooms and these should be shown with the unit operating at low speed and high speed.

The duct runs with their dimensions and the location of each air termination valve should also be shown on the drawing to scale. The design also needs to show how the condensate connection to the waste water pipe will be made. The design should match the specification.

Installation

Installation of MVHR systems is simple. If the specification and design are detailed

and easy to follow, it greatly reduces the potential for problems. I will not address installation problems due to poor workmanship, which is a separate issue. The point is that installation is not complex but the installer needs to have a design that specifically suits the application.

Commissioning

The purpose of commissioning a system is to (a) ensure that the installation is in compliance with Part F; (b) that the system was installed in accordance with the specification and design of the system; and (c) that the end-user receives the handover of all operation and maintenance manuals and is shown how to use the system. Commissioning should be carried out by a competent person using a calibrated (INAB or equivalent) anemometer. It is important to ensure that the anemometer is suitable for low-volume, low-velocity, measuring.

Maintenance

MVHR systems are generally perceived to be far more complex than traditional ventilation systems and therefore require more expertise to service them. Most of the servicing contractors will have plug-and-play style diagnostics from the manufacturer to facilitate quick and easy analysis. Filter cleaning and filter changing are the only frequent items to be considered and these are usually done by the occupier of the house. Annual servicing should be carried out by an MVHR service specialist.

Most common problems

Last minute changes – Where the home owner has decided to change the location of the unit or the use of a room, installers should not try to oblige the end user. They should immediately contact the system designer to see if changes can be made on site or if a re-design is required.

Water leaking – This can be caused by the condensate drain attached to the MVHR either being incorrectly fitted or not fitted at all. Water leaking through



Detailed specification and design are essential if considering a mechanical ventilation system (MVS) or a mechanical ventilation heat recovery (MVHR) system.

termination valves and collecting in ducts happens because un-insulated ductwork has been used where it should have been insulated.

Noise – Undersized units, undersized ducting, excessively long duct runs and too many bends can all cause noise, as can using “roof tile vents” as the primary supply without sufficient free area.

Unbalanced systems – An incorrectly-balanced system can lead to draughts in some rooms with inadequate ventilation in other rooms.

Excessive condensation in some wet rooms – This is usually a design issue, particularly with north-facing walls which are tiled floor to ceiling and have high-volume power showers. Wet rooms with these conditions require higher levels of ventilation.

Conclusion

In conclusion, mechanical ventilation units – with or without heat recovery – are an important aspect for providing more control over the ventilation rate required. With an MVS system running 24/7-365 you require a lower m^3/h air change rate. This means that less infiltrated fresh air needs to be heated by the dwelling’s heating system. This alone is saving energy.

If you add heat recovery then your MVHR is further reducing your primary heating energy load by transferring a percentage of the waste heat energy to the incoming air. Also, MVS and MVHR are generally not affected by wind and external pressure differences.

Finally, MVHR systems in general provide a significantly higher rate of indoor air quality than traditional systems – this is primarily due to the filtration systems incorporated into the units.

I have seen many problems with MVHR systems and in most of these cases it is not a single-fault issue. It is always that at least one of the above five steps has been compromised or missed out completely. The primary fault is that ventilation is pretty close to the bottom of most peoples’ priority list and, as a result, it is usually the “cheapest” system that goes in.

Economy of scale applies to ventilation systems also. The most expensive system is not always the best and in some cases the least expensive may be the best option. However, if two companies are quoting against a specification there should be very little difference between quotes.

The bottom line is that energy efficient ventilation is here to stay. It is functional, practical and it does what it says on the tin. However, if any of the five steps are left out or compromised it will not work. My advice is that if the budget does not allow for an energy efficient ventilation system (MVHR or DCV), then don’t build a low-energy home. ■



London 2012 was a very special year, a celebration of sport and heritage. My time in London kicked off just before Christmas 2011 so it was great to be a part of all these celebrations. London is quite a friendly place and the people at GE Capital Real Estate (the real estate investment arm of General Electric) were very welcoming to their new Irish colleague.

I started work in the recently-refurbished GE Capital Real Estate office in Hammersmith as an Energy Management Advisor. I think the team from Minneapolis had been retired some years earlier (see pic)! My work involves dealing with a large real estate investment and management team across Europe, helping to continue the roll-out of key sustainability and energy-efficiency initiatives, and to improve building performance for the occupants.

It is perhaps a little ironic that the office where I am based is called "The Ark", a landmark building in Hammersmith, providing shelter from the economic storm raging at home. This new role provided me an excellent opportunity to continue doing what I love most about my work – to make our indoor environment a better place to live in a more efficient way.

One of the most striking things about London is the contrast



Guys Hospital boiler house in the foreground with the landmark Shard in the background.

between the bright city lights and the open parklands. My bicycle commute through Wimbledon Common, Richmond Park and the banks of the Thames was certainly a very pleasant way of seeing the quiet side of London. The Ark has excellent gymnasium, showers and locker facilities for the more active commuters and so I set myself an arduous training regime!

However, the audition at the Apollo in Hammersmith for *Britain's Got Talent* was unsuccessful as Simon Cowell felt he could not teach an old dog any new tricks (see postcard). Besides, Pudsey had much more potential. So I stuck with what I knew best and continued on with what was really a very exciting year.

My work took me to buildings all across Europe – Stockholm, Frankfurt, Madrid, Paris, Barcelona, Milan, Gothenburg and Dusseldorf. While the usual restrictions on time for sightseeing applied, it is very interesting to see the different ways HVAC technologies are applied in the different countries.

Other highlights during the year included watching the botched up Boat Race from Craven Cottage. I was sure the impostor who swam between the two crews was the mad Irish priest, but thankfully he wasn't, he was a crackpot of local origins! There were the celebrations for the Queen's Jubilee for which the whole country entered into party mode.

Then there was the most exciting Wimbledon in years with Andy Murray making the final and a win for the locals in the men's doubles. This was followed by Bradley



Sharing golden moments with partying Jamaicans on London's Underground.

One of the most striking things about London is the contrast between the bright city lights and the open parklands



This is how John's colleagues would have dressed had he joined General Electric in 1918.

Wiggins's win in the TdF and you know the rest as regards the outstanding Olympic Games. I had to share some golden moments with another nation of Green and Gold following the Jamaicans' victories in the sprinting events.

Thank goodness Katie Taylor won gold, but what followed in the Paralympic Games was absolutely spell-binding and, for me, the best moments of the year. The Londoners packed the venues to watch the true grit and determination of athletes who have higher hurdles to jump than the rest of us. It was both emotional and motivating. The Irish athletes and their supporters did us very, very proud.

Looking forward to next year, I can't let the opportunity go by without flagging two activities of note in the Geothermal Association of Ireland, a conference in Kilkenny in November and a competition for non-domestic installations. More details to follow shortly.

I wish everyone a peaceful and happy Christmas and may your endeavours bring you fulfilment in 2013. ■

Easi-Seal shower tray innovation

Somerby is Ireland's leading resin-bonded shower tray manufacturer and has been operating out of its Cappagh, Co Waterford site since 1989. Managing Director is Chris Clancy who joined the company in 1990 as General Manager and is now also a 50% shareholder in the company.

Chris has overseen significant product development and market growth over the last 20 years and the company is now the main supplier to some of Ireland's largest bathroom distributors, as well as selected Irish bathroom retailers. It also supplies the UK market via a network of appointed specialist distributors.

To date Somerby has manufactured and supplied over 600,000 resin-bonded shower trays in a large range of different sizes and shapes, in standard and low-profile heights.

Somerby also manufactures a unique range of shower trays called the Easi-Seal Tray. These units have an integrated and leak-proof tiling upstand and were created to eliminate the regular and expensive problems of water leakage where the standard tray meets the tiles. It avoids the need for costly and unreliable stick-on upstands which the plumber very often has to use during installation.

Proven innovation

Product innovation is a critical element of the Somerby philosophy. To that end substantial funds are invested annually in research and development to bring to the market unique products conceived, designed, developed, patented and manufactured by the company.

Somerby obtained UK and Ireland



Chris Clancy, Managing Director.

patents on the Easi-Seal Tray in 1992 and since then it has manufactured and supplied 180,000 of these units. This product continues to be a great success and Somerby has never had a customer complaint or product failure on Easi-Seal.

Production excellence

Somerby has a highly-skilled, motivated and experienced staff, most of whom have been with the company for over 20 years. Over the years they

have designed and developed new products, processes and equipment, as well as continually improving the systems and efficiency of the factory. They are flexible and open in their outlook and relish the opportunity to bring new and innovative products to the marketplace.

Looking to the future, Chris Clancy is well aware of the difficult trading environment he and his colleagues face but is confident in their ability to rise to the challenge. "Somerby is an innovative, tightly-run business", says Chris. "We succeed by providing top-class products and unbeatable service to our customers. The staff are highly-skilled and highly-motivated, and are totally flexible so that we can always respond – with speed and efficiency – to all situations".

Contact: Chris Clancy, Managing Director, Somerby.
Tel: 058 – 68247; 086 – 250 1657;
email: somerbyltd@eircom.net ■



Easi-Seal Tray installation with cross-section inset detailing the integrated, leak-proof tiling upstand.

SDAR* Awards 2013 entry deadline

Short abstracts (between 100-200 words max) for entry into the SDAR* Awards 2013 must be submitted by Monday, 31 December 2012, by email directly to Michael McDonald and/or Kevin Kelly of DIT at michael.mcdonald@dit.ie and kevin.kelly@dit.ie

The SDAR* Awards is a joint initiative between CIBSE Ireland and DIT, supported by *bs news*, and sponsored by John Sisk & Son. The awards, which are gaining momentum each year, are unique in that they are intended to disseminate knowledge, encourage research in sustainable engineering of the built environment, and raise the quality of innovation in such projects. Entries are required to critically evaluate re-life data, and examine both successes and challenges within leading-edge projects throughout Ireland or further afield.

Collaborations between industry and academia allows the building services profession to develop and

underpin leading-edge work with evaluation. Post-occupancy evaluation is a major feature of this event. This facilitates the transition from ideologically-driven projects, sometimes offering poor value, to evidence-based innovations that prove value or identify weaknesses.

From the abstracts submitted by the Monday, 31 December 2012 deadline, a shortlist will be selected by peer review, and those selected will be invited to prepare final papers by January 2013.

Five papers were shortlisted in 2012, four of which were presented at the awards in March 2012 in DIT. The winner was James McConnologue from RTE, who presented a paper investigating the energy performance of a building's chilled water system (CHWS), primarily focusing on the system's direct electrical energy consumption. This research paper, along with others, will be published in the *SDAR* Journal* in the coming weeks – <http://arrow.dit.ie/sdar/>

Next year's final will take place

on Thursday, 14 March 2013 in DIT, Kevin Street.

For further information contact:

Michael McDonald at michael.mcdonald@dit.ie or Kevin Kelly at kevin.kelly@dit.ie



**Sustainable
Design &
Applied
Research**



in Engineering of the Built Environment



Duff triumphs at Young Lighter Awards

The final of the Irish Young lighter took place recently at DIT Kevin St in Dublin. The awards yet again confirmed themselves as the premier lighting awards within the industry and are keenly contested by qualifying students, recent graduates and established engineers.

Stephen Donohoe, DIT and SLL Republic Of Ireland Rep, opened proceedings in the company of Keith Sunderland, DIT and CIBSE and Sean O'Dowd, CIBSE Vice-Chairman. It was a keenly-contested affair that saw three finalists present a broad range of topics, ranging from LED lighting in an office environment, to the impact for illumination engineers based on the new SLL Code for lighting, and solar shading. The competition was extremely well attended with almost 100 people representing industry professionals and students present on the occasion.

The presentations, like all past years, were of an extremely high technical quality. Promoters of the awards are CIBSE and DIT, with main sponsorship from CIBSE Ireland. Additional support is provided by the Society of Light & Lighting, the Institute of Lighting Professionals (ILP), and CIBSE NI.

The finalists were awarded their prizes by CIBSE Ireland Vice-Chairman Sean O'Dowd and Treasurer Damien Flynn.

Stephen Donohoe, Dr Kevin Kelly and the team within the DIT School of Electrical Engineering brought the proceedings to a close.

Young Lighter submissions

- James Duff, Arup, for his paper *The 2012 SLL Code for Lighting: The impact for illumination engineers;*
- Graham Langton, DIT, for his paper *Shading Design Guide;*
- Stephen Dwyer for his paper *An investigation into LED tubular lighting in an office environment.*

Contact: Stephen Donohoe, DIT.
Email: stephen.donohoe@dit.ie



Graham Langton (DIT) and Stephen Dwyer (Hora Lea), joint Runners-up with Overall Winner James Duff (Arup).

Young Lighter Awards' Winners

Winner: James Duff

Joint Runners-up Graham Langton and Stephen Dwyer



Stephen Donohoe with Dr Kevin Kelly and Michael McDonald. All three represent DIT, CIBSE and SLL.



Judges – Gerard Farrelly, DIT and CIBSE with Michael McNerny, CIBSE; Margaret Dolan, CIBSE; and Jim Hatton, CIBSE and SLL Northern Ireland.

Plumbing TIPS



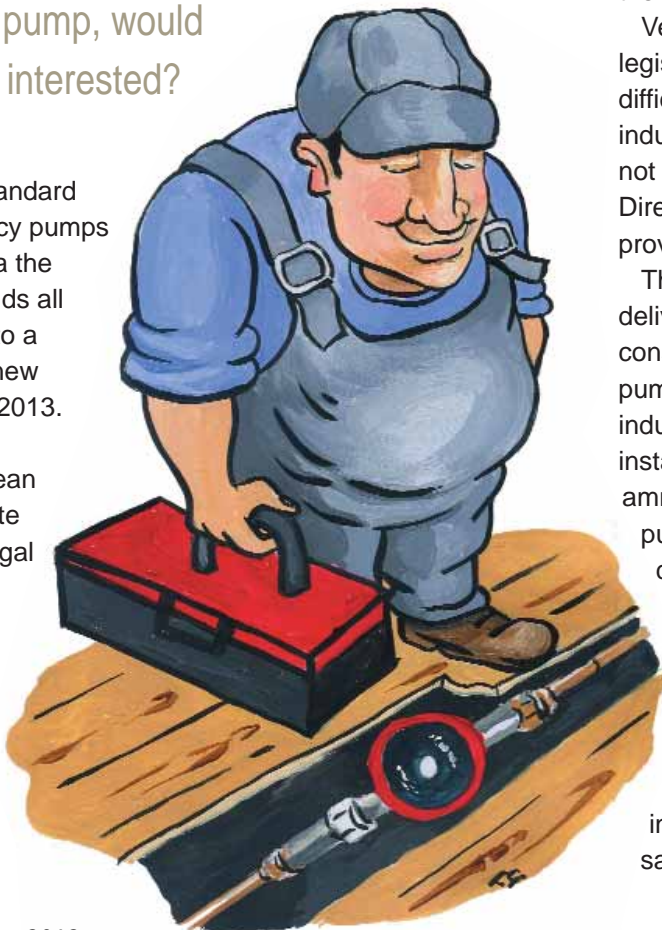

*by Paul Clancy,
Managing Director,
Potterton Myson Ireland.*

What's new with pumps? *Class A efficiency is the new benchmark*

The thing about pumps is that they are everywhere ... in boilers, solar thermal systems, heat pumps, micro CHP, etc. So, if told that they could save 70% on power consumption by switching to a high efficiency Class A circulating pump, would your customers be interested?

The change from standard efficiency to high efficiency pumps is driven by legislation via the ErP Directive that demands all circulating pumps move to a high efficiency model in new systems from 1 January 2013.

With the ErP Directive 2009/125/EC, the European Union is promoting climate protection further. This legal regulation for energy-related products – ErP for short – limits electricity consumption considerably, even for heating circulation pumps. In effect, this Directive signals the end of inefficient pumps.



Uncontrolled pumps are responsible for 20% of the world's electricity consumption. This means that all pump manufacturers will have to cease production of standard-efficiency pumps from the end of this year.

Very often the imposition of new legislation or directives presents difficulties and challenges for the industry sector affected. This is not the case with the new ErP Directive. If anything, it will provide a business stimulus.

The running cost savings delivered by the reduced power consumption of ErP-compliant pumps is great news for the entire industry. Specifiers, and especially installers, are now armed with the ammunition to undertake a major pump upgrade/replacement campaign.

Calling all contractors – this is an excellent opportunity for you to increase your business while, at the same time, delivering value for money services – in addition to genuine costs savings – to your customers. ■

“ I would like to thank the CIBSE Ireland Committee for their enormous contribution over the last nine months. Despite being a totally voluntary organisation, we run an ultra-professional operation which is the envy of many. ”

As I prepare to pass the baton ...

Derek Mowlds reflects on his role as Chairman of CIBSE Ireland region

Since assuming the role of CIBSE Ireland Chairman in April 2011, I have thoroughly enjoyed working with the CIBSE Committee to develop and deliver our programme of events and activities to all involved in building services in Ireland.

In terms of time management, it's been a challenge for everybody due to increased demand on our availability as we work through difficult times. As a senior project manager with PM Group I fully understand how my CIBSE Committee colleagues have to juggle their day jobs with their CIBSE duties, and I really appreciate their efforts

I have strived to increase awareness of our profession in the wider built

environment through engagement with other institutions and organisations, and by highlighting our central role in achieving improved efficiency and performance of new and existing buildings.

We have made a concerted effort to engage with all the professional bodies and institutions involved in not just building services, but construction as a whole. Everyone now recognises that we need a holistic approach to the built environment and my active engagement as the CIBSE representative on the Irish Green Building Council (IGBC) is very productive in this respect.

We also reinforced our links with ASHRAE by again hosting the recent

visit of ASHRAE President Tom Watson to Ireland. In addition to a special lunch and tour of facilities at DIT Kevin St and Bolton St, Tom also delivered the annual Pat Benson Memorial Lecture.

The imminent publication of Ireland's second *National Energy Efficiency Action Plan (NEEAP)* will require the skills and expertise of building services engineers to make savings beyond the low hanging fruit. It is up to us collectively through CIBSE Ireland – and individually in our daily professional activity – to make this contribution.

As an industry sector we have a vast reservoir of knowledge and expertise to bring to the table. I see this day in day out, but particularly so when reading the *SDAR* Applied Research Journal*. This is a collaborative initiative between CIBSE Ireland and DIT Kevin St. The first edition in 2012 covered a wide range of engineering best practice and evidence-based design resulting in lower energy and enhanced building performance. Industry co-sponsor was Airtricity.

Just as *bs news* went to press we had the publication and official launch of the 2012 edition at DIT Aungier Street where Professor Brian Norton, DIT President, did the honours. Industry



Ben Constelloe, DIT Bolton St with John Valentine, Daikin Ireland and Tom Watson, ASHRAE President.

co-sponsor for this edition was Electric Ireland.

This again is crammed with evidence-based research data on actual projects, with the emphasis on not just what works, but also on what does not work. I look forward to feedback from Industry and beyond. Dr Kevin Kelly, past CIBSE Chairman and Head of Department, Electrical Services Engineering, School of Electrical Engineering Systems, DIT, has been central to the quality and success of this important publication.

Our conference last year – *Engineering Opportunities: An Integrated Approach* – brought together professionals from across the built environment to discuss total project delivery, from legal and procurement, design and BIM, to commissioning, post-occupancy evaluation and in use. We were delighted and honoured to have CIBSE President Andy Ford attending, and he subsequently wrote an article on



Derek Mowlds, CIBSE Ireland Chairman with ex-Chairman Margaret Dolan and ASHRAE President Tom Watson, pictured after Margaret had been presented with her CIBSE Bronze Medal.

his visit which was published in *bs news*.

We are already in full planning mode for next year's event, an international conference centred on lighting and best practice. Full details are available on our website www.cibseireland.org

I will continue to represent the Irish Region at CIBSE HQ in London by

attending the Regional Liaison Committee and CIBSE Council meetings when my term of office concludes early next year. I have also been elected by the CIBSE Board to continue with the Council in London. It will be an honour to fulfil this role.

The status of CIBSE Ireland within the general framework of CIBSE internationally is extremely high, and our contribution and input into the overall affairs of the Institution is recognised and acknowledged. Just recently two of our past Chairs – Alan Duggan and Margaret Dolan – received the CIBSE Bronze Medal for outstanding contributions to the Institution. Congratulations to both from all on the CIBSE Committee.

I will officially end my term as Chairman at the next CIBSE AGM in April 2013, where I will pass the baton to the incoming Chairman, Sean Dowd MCIBSE Ceng. As Vice-Chairman Sean has already been very active and I know he will continue to represent the members, and the wider building services sector, extremely well during his term.

In conclusion I would like to thank the CIBSE Ireland Committee for their enormous contribution over the last nine months. Despite being a totally voluntary organisation, we run an ultra-professional operation which is the envy of many. In that context I would also like to thank all of our members, sponsors and supporters who have helped throughout the year.



Group pictured at DIT Bolton St prior to delivery of the Pat Benson Memorial Lecture by ASHRAE President Tom Watson.

Events from 2011/12 included

- CIBSE Lunch 2011 with Noel Morrin of Skanska
- The CIBSE Conference in Croke Park
- Summer social B-B-Q
- ASHRAE President's visit and lecture
- LED masterclass at Engineers Ireland
- The Irish Lighter and SDAR* Awards
- CIBSE at the Better Buildings Conference in the Royal Hospital
- Publication and launch of *SDAR* Applied Research Journal 2012*
- Comprehensive programme of technical evenings
- Intelligent Buildings with Prof Clements Croome at Engineers Ireland
- CIBSE AGM



Derek Mowlds MCIBSE,
Chairman
CIBSE Ireland Region

CITA, the Construction Information Technology Alliance came together over a decade ago to help the Irish construction sector adopt information and communication technologies.

Building Information Modelling

CITA BIM workshops – keynote address by Judit Kimpian

This year it organised a series of ten BIM workshops to improve the awareness of Building Information Modelling among professionals in the sector, writes *Judit Kimpian, Director, CarbonBuzz Project Manager, Aedas.*

The final session was in November at the Royal College of Physicians – a beautiful space, built well over a 100 years ago, entirely without any computer technology. As the keynote speaker I was asked to put Building Information Modelling into an international context, talk about barriers and opportunities globally.

Aedas has been a major global player for integrating information technology in the design process and the practice and has a great portfolio of projects demonstrating this approach. The tools and platforms used over the years have varied enormously – to illustrate this journey through the evolving technologies I showed a cross section of case studies.

A key characteristic to these was the variety of software packages used to achieve design aims, which were both aesthetic and performative. Many of the projects shown are complete, with some on site, while others are still on the virtual drawing board. Much of the recent work built on the findings of Aedas-led

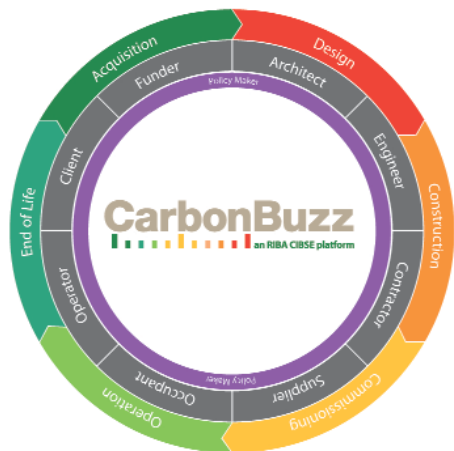
research, such as CarbonBuzz, as well as detailed post-occupancy evaluations.

This type of collaborative project helped the industry expose the gap between design stage predictions and actual energy use. The practice now works towards targeting low operational energy use and relies heavily on virtual information models.

Judging from the questions after the talk, what seemed to interest most was the business case for adopting BIM, ie the day to day benefits and costs. Most of the audience associated the use of Autodesk’s Revit with the ‘B’ word. Although it has taken a while, the US software house has become very successful in promoting its platform in North America and internationally. There was some awareness in the 70+ strong audience of other platforms too, such as ArchiCad, which is big in Continental Europe and well known around the world, while Bentley is particularly popular for infrastructure projects and large design-focused London practices such as Fosters or Grimshaws.

This is not atypical – software packages like Digital Project and Rhino tend to be used mainly by complex high-end projects not because of cost but because Autodesk has done such a good job of automating what most people think BIM is: interactive drawing extraction and scheduling. Given the functionality available today one does wonder why anyone would do an area calculation or ironmongery schedule by hand ever again.

Yet the term BIM refers to more than this. At the least it gives an opportunity to get all disciplines, mechanical, structural, architectural, to use the same 3D model for coordination, reducing the risk of having to rectify clashes on-site at a high cost. Where this works, it tends to lead to much faster design times and greater





Ralph Montague, Director of ArcDoc, pictured with Dr Judit Kimpian, Director of Sustainable Architecture & Research, Aedas R&D, Derek Mowlds, Chairman CIBSE and Alan Hore, Director of CITA.

certainty of the outcome. Where it can fall short of expectations is the willingness for the whole design team to model in 3D.

Most engineers are reluctant to put anything to 3D for a “simple” project until the design is “finished” as in most cases their calculations do not rely on 3D models. If the design changes, not only do they need to recalculate but they need to remodel too, adding further to their workload – for a fixed fee. It is only the more complex projects that make sense to model early, as these would need to go through 3D based analysis.

The issue here is that interoperability between analysis packages and mainstream BIM platforms is notoriously bad. Users rightly ask why they should model twice, once for the analysis and once for BIM. Major software developers are now looking at this problem more closely and are beginning to see interoperability as a business opportunity. Platforms like Rhinoceros became

extremely popular among young professionals for exactly this type of flexibility – watch this space.

To adopt building information modelling a practice needs to invest in training, new hardware and software infrastructure and allow teams the time for the learning curve, all of which is costly. When the process is well managed the gains are substantial. But when not, the consequences can be costly. It is everyone’s worst dream to be staring at a computer screen close to a deadline unable to extract the right information for a submission.

It is therefore essential to have one person on every team that understands how to set up and run a model depending on the information likely to be extracted from it.

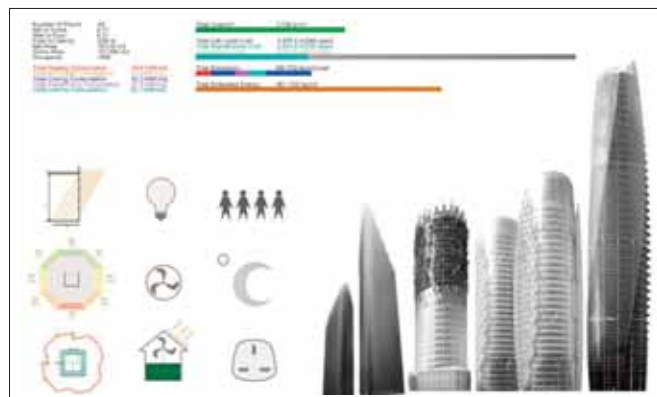
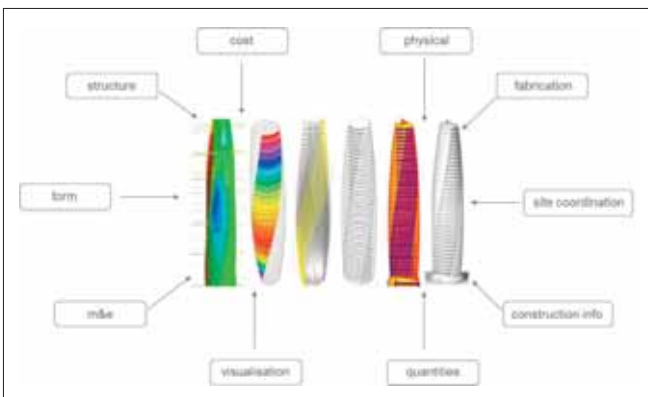
The Holy Grail of building information modelling is to be able to manage all information relating to a project from “cradle to grave”. Use 3D scanning to model existing buildings in 3D, develop

concept designs, extract information and drawings, use the 3D and the associated database of components and properties to drive facilities management and reuse/recycling at end of life.

The catch is that different stage models need different data structures. Early stage models need to be light and nimble, provide great visuals and feedback about the impact of briefing decisions and appearance on cost, whole life cost, thermal comfort, structural performance, embodied carbon, etc. Aedas’ Tall Building Simulation model (below) is a good example for this. In later stages a model requires lots of components and data attached to those components, such as typology, fire performance, cost, maintenance requirements, etc and provide feedback about quantities, schedules and assemblies.

It is currently difficult to “design”, “analyse” and get beautiful images from a program fundamentally geared towards drawing extraction and scheduling, while it is equally hard to schedule and extract drawings and work packages from a conceptual modelling tool.

With more evidence emerging about the productivity gains to be had from BIM and more and more projects placing an emphasis on building performance, adopting the technology is increasingly looking like a no-brainer. The trick is knowing what to use and when – after all, some things are best solved with a pencil. ■



Early stage models need to be light and nimble, provide great visuals and feedback about the impact of briefing decisions and appearance (left). Aedas’ Tall Building Simulation model (right) is a good example for this.

back issues

COMPETITION



Fitness personified!

Identify these fighting fit industry players and win a bottle of champagne.

To enter simply email the names of all four well-known industry players to pat@pressline.ie

Correct entries will go in the hat with the winner being drawn on Monday, 7 January 2013.





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Carrier Packaged Rooftop

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- Heat Pump
- Free-Cooling



- Refrigerant 407C
- Dual Fluid
- Free-Cooling
- Chilled Water
- Upblow/Downblow
- Dx – Water Cooled
- Close Control Air Conditioning

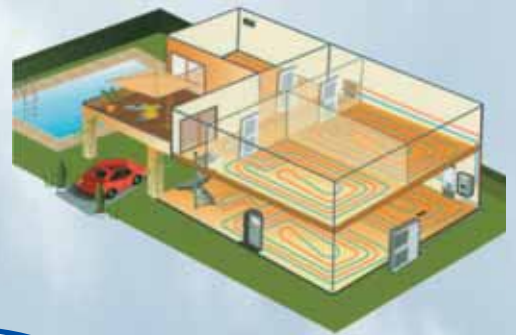


- Chillers
- Free-Cooling Chillers
- Heat Pumps
- Minisplits
- Fan Coil Units
- Controls



Residential Heat Pumps

- Renewable Energy Solutions



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