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BS News September/October

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Building Services news



■ Schools in for aluminium!



■ Wowed by Azerbaijan



■ Controls: WSN way forward



■ CIBSE plays



NEW

TOUCH SCREEN PROGRAMMABLE THERMOSTATS

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Tel: 01 - 459 0870
email: sales@potterton-myson.ie

Opinion

Don't devalue your service/product!

While politicians and some media commentators – none of whom actually run a business themselves – will try and tell you that “the recession is over”, you know better. It is still very difficult out there.

That said, there is a noticeable improvement across all building services market segments, be it industrial, commercial or domestic. New-build is definitely showing signs of growth while refurbishment/replacement continues to gather momentum.

However, a common problem across all market segments is the price-driven rather than value-for-money mentality. If we're honest, this is not just a hangover from recent years but something that was prevalent in the boom times also.

Now that we're starting afresh there is an opportunity to break that cycle. Going forward consultants, contractors and product suppliers must work together to educate clients – at all levels – as to the importance of value-for-money over price.

Thankfully, there is a market pick-up – don't throw it away by undervaluing/devaluing what you offer.

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As always, there was an excellent turnout for the CIBSE annual golf outing at Castleknock.

NEWS AND PRODUCTS

Further expansion at Kirby Group

Kirby Group has announced the creation of 30 new jobs in its Irish operations. The Group, which is celebrating “50 Years of



Fergus Frawley, Group Managing Director, Kirby Group pictured with Minister Michael Noonan, TD

Excellence in Engineering” this year, will start filling the 30 new positions immediately.

Kirby Group has already hired 30 new employees since the start of the year following the continued

strong performance of the Irish and UK businesses. Turnover for 2014 is expected to increase by 20% to almost €110 million.

Founded in 1964, it is an Irish-owned multi-disciplinary engineering services contractor. The organisation has gone from 10 employees in 1987 to over 600 today, with substantial operations in Dublin, Galway, Limerick, the UK and Europe. A further 250 people are employed by key sub-contract partners.

Save on travel with Hitachi

To coincide with the introduction of its new high efficiency Set Free FSXN1E model to an already impressive product line up, Hitachi Air Conditioning Europe SAS has introduced an exciting customer VRF promotion on 1 September.

Purchase any product from Hitachi’s Set Free VRF range between 1 September and 31 March 2015 to earn fuel or travel vouchers relative in value to the size of units purchased. For example, a 4HP unit is worth €50, a 10HP unit €130 or a 18HP unit €230.

“We know times are tough. As part of our aim to help our customers do more business, this promotion enables them to reduce fuel costs or enjoy a well-deserved break, whichever is more beneficial to them and their business,” commented Fergus Daly, Area Sales Manager, Hitachi Ireland

For more details on Hitachi’s Set Free VRF product range, visit www.hitachiaircon.com or contact: Fergus Daly, Hitachi Ireland. Tel: 01 – 216 4406; Mobile: 087 – 277 9405; email: fergus.daly@hitachi-eu.com



Stafford appointed Polytherm GM

Donal Stafford has been appointed General Manager of Polytherm Heating Systems bringing many years of internal and external sales experience, and management roles, to the company. As General Manager his role will include creating a synergy between the renewable products that Polytherm and its sister companies have to offer.



Polytherm’s large range of products includes underfloor heating, solar, heat pumps (geothermal and air to water) and general plumbing products. These are complemented by a design support service for residential, commercial and industrial applications provided by in-house design engineers, CAD technicians and system specialists.

Contact: Donal Stafford, Polytherm Heating Systems. Tel: 086 - 773 8042; email: donalstafford@polytherm.ie

BTU President’s Outing

The most recent BTU golf outing took place at Druids Glen Golf club, an excellent location to host Brendan Keaveney’s President’s prize. The course was in magnificent condition and, as you would expect, proved a big hit with all who took part. A total of 38 golfers played in the Autumn sunshine.

On this occasion the Keaveney family kept it in the family as Brendan’s son Bryan took home the spoils, with a brilliant score on the day.

Sponsors Lynch Interact put up a wonderful array of prizes with Stephen Keating representing them at Druids Glen on the day. Results were as follows.

Overall winner: Bryan Keaveney (H10, 38pts);

Class 1: First – Michael Matthews (H10, 33pts); Second – Brendan Keaveney (H10, 30pts, 34-4); Third – Michael Matthews (H9, 29pts).

Class 2: First – Liam McDermott (H12, 36pts); Second – Joe Warren (H12, 34pts); Third – Maurice Kelly (H12, 31pts).

Class 3: First – John Littlefield (H15, 32pts, 34-2); Second – Michael Bready (H17, 31pts, Back 9); Third – Jim Bollard (H22, 31pts, 32-1).

Visitors Prize: First – Phil O’Neill (H15, 35pts); Second – Jack Keaveney (H10, 32pts).

Best front nine: Garvin Evans (H27, 16pts).

Best back nine: Bernie Costelloe (H13, 17pts).

NEWS AND PRODUCTS

Hevac supports RGI-only gas parts and appliance sales

As part of Hevac's commitment to supporting a safe and regulated gas industry in Ireland, both domestic gas appliances and gas spare parts will now only be supplied to trades people registered with the RGI.

All its branches have been briefed on this policy and there will be strict compliance throughout the Hevac Group.

Group inspects Lambay Island plumbing!

Lambay Island could soon become an exclusive hideaway for wealthy holidaymakers after plans to modernise it were recently given the green light.

Earlier this year Fingal County Council gave the Lambay Estate Company, the trust company through which the famous Baring banking family still owns and runs the island, permission to upgrade and modernise the buildings, especially the plumbing.

Thanks to Eamon McGrattan of McGrattan & Kenny – who also owns a charter boat business called Fish & Trips out of Malahide – a select group of building services industry personnel recently enjoyed a private tour of the island.

As Eamon's guests, the group got a private tour of the Castle, another building called the White House, and some of the surrounding gardens. Guides for the day were direct descendents of the Baring family bank founders.



Des Prendergast, Euro Gas and Gerry Tobin, Davies riding the waves on their way out to Lambay Island courtesy of Eamon McGrattan.

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NEWS AND PRODUCTS

New Condair ME evaporative humidifier from JS Humidifiers

JS Humidifiers has introduced the new Condair ME evaporative humidifier, offering low energy humidification and evaporative cooling to an air handling unit or duct. A single unit can deliver up to 1,000kg/hr of moisture and 630kW of evaporative cooling to an air stream while operating on less than 0.3kW of electricity.

mechanical components to be located outside the duct and so most maintenance can take place without any AHU downtime.

Unlike other evaporative humidifiers that use a large single pump, the Condair ME's multiple low energy pumps keep its energy consumption proportional to the required



The Condair ME consists of an evaporative module that is located inside the AHU, a patented self-contained hydraulic unit and an intuitive touch-screen control panel.

The compact unit is made of toughened glass-reinforced plastic and features a water tank, up to five water pumps and a pumped drain. It can be located either inside or outside of the AHU.

Exterior mounting enables all

output. As they have no mechanically-connected parts, they are exceptionally quiet

A touch-screen control panel with intuitive interface allows software-based commissioning and has detailed operational, servicing and fault reporting. The control panel can also be connected to a BMS.

Contact: JS Humidifiers.
Tel: 0044 – 1903 850200;
email:sales@jshumidifiers.com;
www.jshumidifiers.com

Bradshaw joins Hevac

Eamon Bradshaw has been appointed Hevac Business Development Manager with responsibility for the promotion and development for Hevac domestic and commercial products for the Midlands Region of Ireland.



He has extensive experience in the sector, having worked closely with both mechanical contractors and plumbing and heating merchants in his previous roles.

Hevac has also developed a new website – www.hevac.ie – featuring brand selection area, specification sheets, product videos and price books.

Distech expands app offering

Distech Controls, an energy management solutions provider, has introduced the new *myDC Control* app and made the Smart-Sense Room Control app available on Android and iOS.

myDC Control is a tool offering increased commissioning efficiency and reduced associated time and costs. With this app an engineer/technician can test and commission HVAC systems single-handedly.

In addition, the *myDC Control* app also allows for remote servicing and maintenance, and improved response time to service calls. From wherever their work takes them, building managers can view alarms, perform diagnostics and take corrective actions such as overriding conditions, or changing a setpoint.

Providing an intuitive interface for the occupants of modern buildings, the Smart-Sense Room Control app allows occupants to view and set comfort parameters, such as

temperature, fan speed, lighting, shades/sunblinds and occupancy.

Smart-Sense Room Control also features the innovative ECO-Vue™ leaf pattern, engaging occupants and promoting energy-efficient behaviour by providing immediate real-time visualisation as to the energy efficiency of a setting.

Contact: <http://www.distech-controls.eu/>



NEWS AND PRODUCTS

Responsive heating for The Leadenhall Building

Three Stokvis 1.5MW boilers fitted with Riello modulating burners have been supplied to The Leadenhall Building in the City of London to provide space heating throughout the building.

Designed by Rogers Stirk Harbour & Partners, the 224m high, 52-storey building has a distinct tapering shape. It is being constructed by Laing O'Rourke using Building Information Modelling (BIM) techniques and will incorporate retail outlets, a restaurant, two reception levels and 41 floors of offices. Plant rooms are located above the offices from levels 46 to 52.

The Stokvis Rex 160F boilers, fitted with Riello RS120 fully modulating burners, were selected by Crown House Technologies (CHT) working to a specification by consulting engineers Arup. CHT's Peter Davey explained: "The building is well insulated, resulting in relatively low space heating loads that will vary considerably through the day. It was therefore important that the heating plant could respond to varying loads efficiently.



"We investigated a number of options to ensure we met the specification while ensuring best value, and selected the Stokvis boilers on that basis. The burners are especially critical in ensuring reliable performance and we knew from past experience that Riello would provide the reliability and repeatability we required."

Over 83% of the construction works for The Leadenhall Building took place off site. In support of this strategy the boilers were delivered to CHT's fabrication facility, where they were skid-mounted with pre-assembled gas and water pipework for ease of installation on site. They were then lifted into position on the 47th level of the building, and arranged end-to-end to make best use of the plant room space available.

"The space heating plant has now been commissioned and we've been very pleased with the quality of support provided by Riello and Stokvis," Peter Davey concluded.

CIBSE Lunch

Once again as the CIBSE Lunch looms, booking enquiries for tables are coming in fast and thick. This event is now by far the most important on the building services calendar so, if you want to see and be seen, confirm your attendance now.

Venue is The Alexander Hotel, just off Merrion Square, Dublin 2. Date is Friday, 5 December. Contact: contact@cibseireland.org



CONDAIR - the new name for JS Humidifiers



Tim Scott, Head of Sales, Condair plc

“ Having been a member of the Condair Group for three years, JS Humidifiers is changing its name to Condair plc.

As well as manufacturing Condair products from our production facility in West Sussex and offering the full Condair humidifier range to our UK customers, we act as a central sales office for many Condair distributors around the world.

Rebranding to Condair allows us to streamline our UK operations and communicate our role within the world's leading humidification and evaporative cooling company.

For over 30 years, as JS Humidifiers, we have delivered the very best solutions for our customers' humidification requirements. Now under the name of Condair our mission is and always will be to continue to provide the very highest level of technical expertise and customer satisfaction. ”

See www.condair.co.uk for more info

Humidification and Evaporative Cooling





Core Air Conditioning Ltd is the sole distributor for Carrier and Liebert commercial, industrial and computer room air conditioning products in Ireland. It also supplies the full range of Mitsubishi Electric, Lu-ve Contardo and Jacir Air Traitement equipment and can now offer a full package of air conditioning and process-related products.

Core combines this product portfolio with excellent technical support and a highly-qualified service team that, in addition to commissioning and trouble-shooting, also delivers customised maintenance packages. These ensure the optimum performance of installed systems, prolong equipment lifespan, and prevent the consequences of system failure or total shut down.

Core's service agreements are highly-flexible and are designed for each individual installation. After a thorough site survey, the right combination of options is selected for each particular facility. In addition to service, repair and planned maintenance, diagnostic and proactive recommendations for improvement are also provided, along with emergency response.

Core's team of service/maintenance engineers have wide-ranging experience across all HVAC equipment, covering all brands, and so offer all-embracing comprehensive solutions.

The key elements of the service selection process, and the actual service packages that result, are detailed here.

JOIN THE 'CORE AC CIRCLE OF SERVICE'

› Planned Maintenance

Core's planned maintenance service is the ultimate in long-range preventive maintenance. It includes the necessary multi-year preventive maintenance items that are performed at intervals greater than one year (those items that are in addition to the annual recurring items such as every three, five or 10 years). Major disassembly to repair, or replace, internal parts and rotating assemblies as a result of normal wear is included.

› F-Gas Inspection

Under the European Fluorinated Gases Regulations (EC 842/2006), Core Air Conditioning can carry out inspections on all equipment, irrespective of brand, to ensure regulatory compliance. All engineers are F-Gas approved and qualified to carry out leak checks and issue the proper paperwork confirming obligations have been met under EC 842/2006.

› Repair Service

Repair Service may consist of a service order to repair or replace a component. It can include equipment overhaul, rebuilding, non-destructive testing or analysis of fluids and tubes. Various repair services can be stand-alone or combined with any of Core's other services.

› Full Preventive Maintenance

This includes all the inspection maintenance services, plus pre-scheduled recurring annual tasks which may require disassembly for preventive maintenance, as part of Core's major maintenance service. Minor repairs, motor testing and leak testing are also carried out.

Core Air Conditioning Ltd
 Unit A6,
 Centrepont Business Park,
 Oak Road, Clondalkin,
 Dublin 12
 Tel: 01 409 8912
 Fax: 01 409 8916



www.coreac.com



Jenny Courtney, Service Coordinator with Fintan Brewster, Service Manager

› Monitoring Service

With chillers, a problem is not always present when an engineer is on site. Core offers a unique service on Carrier equipment called PC Data Collection Tool (PCDCT). With PCDCT, the Carrier chiller is monitored for 24-hours or more, and all parameters are recorded at 2-second intervals. Technicians at Core and Carrier then study this and recommend any changes to improve the operating efficiency of the system. It can also indicate problems that may arise before they lead to catastrophic failure. The customer is then left with a blueprint of the operation of the machine.

› Inspection Maintenance

Inspection, logging and adjustments of equipment are part of Core's basic minor maintenance service. This service may require minimal disassembly such as oil and filter changes and includes a report, complete with service recommendations. On Carrier and Liebert equipment this also includes any software upgrades recommended by the manufacturers.

› Predictive Maintenance

This non-destructive testing service covers oil analysis, water system analysis, alignment checks and calibrations that may be combined with the minor or major maintenance. This can help prevent chiller failure and help eliminate equipment downtime. Because oil analysis can identify the wear-and-tear of a chiller, if conducted on a scheduled basis it ensures the chiller delivers reliable performance for years.

› Invaluable Database Record

Core maintains a complete database of all tests, and results, performed on a system and equipment. This provides invaluable information to help

Service

- › 24/7/365 emergency cover
- › Factory-trained engineers
- › Spare parts
- › Nationwide coverage
- › All equipment and brands

Survey and Analysis

- › Equipment evaluation
- › Detailed reports
- › Customised service contracts

Non-destructive Testing

- › Oil and water analysis
- › Motor insulation testing
- › Thermographic testing
- › Ethylene and propylene glycol

optimise ongoing performance, and also helps identify possible future problems. It is a key component of predictive maintenance.

› Emergency Service

Because Carrier and Liebert units – and other leading brands of equipment – serve critical systems where downtime is an expense as well as an inconvenience, Core offers a 24-hour emergency service on all of its maintenance contracts. Average response time from call receipt is two hours for the Dublin and Cork areas and under four hours nationwide. Core engineers carry stocks of the most commonly-used parts but also have 24-hour access to express parts delivery for less common items. Repairs are completed day or night, to return equipment to normal operating condition as quickly as possible.

› Motor Insulation Testing

Motor failures are usually caused by motor winding breakdown, so Core engineers conduct regular motor insulation testing. This identifies insulation deterioration before failure occurs and so allows for planned, and budgeted repair. Meg-ohm testing is used to identify weak spots in motor windings or the presence of potentially-damaging moisture. It also avoids labour-intensive disassembly.

Xylem presents energy efficient XL Ecocirc and Ecocirc XLplus

Xylem has strengthened its popular range of high efficiency circulator pumps with the addition of the Lowara Ecocirc XL and Ecocirc XLplus. They are ideal for commercial applications and were designed specifically for applications like heating systems, cooling systems, domestic hot water systems, solar systems and geothermal systems. The range is made up of DN 25 to DN 100 models in single-head, twin-head and bronze pump housing configurations.

The smaller 100 watt models for light commercial applications have the unique anti-block technology already existing in the Ecocirc series. This technology reduces pump downtime and maintenance costs as it completely separates the main flow of the pumped

liquid from the permanent magnetic parts, meaning the pump is never susceptible to blockages from magnetite or sludge. The larger models for commercial applications utilise a canned motor design with filters.

The Lowara Ecocirc XL and XLplus come with a variety of control options as standard, including proportional

pressure, constant pressure or constant curve. In addition, the “automatic night setback” mode ensures that the circulator reduces its performance level to a minimum when not needed, thus enabling a further reduction in energy

consumption and costly utility bills. All settings can be controlled by an easy-to-use display with intuitive interface design.

Terry Murray, Sales Manager, Xylem Water Solutions Ireland said: “Following the success of the Ecocirc, we wanted to develop a circulator for commercial applications which could meet heating and cooling requirements across a broad range of applications but still maintain the value and energy efficiency that we have come to expect with the ecocirc series.

Energy efficient features

“Our Ecocirc XL offers clear energy efficient features. It is very easy to install, set and use. With this state-of-the-art high efficiency device, we have reduced the complexity for the user to a new minimum.”

Ecocirc also features an easy-to-use digital interface to keep the user informed of key pump performance information such as operating or fault mode, flow control and set point. Further in-depth information such as historical pump data, the live situation as well as many additional settings can also be easily accessed. This can be done through a laptop via a RS485 port, or through an optional wifi module and standard wifi-enabled device, such as laptop, tablet, or smartphone.

If using a smart phone, a specific app is not required as all data and settings can be accessed through the standard browser installed on the wifi-enabled device.

For use in installations with building management services, the Ecocirc XLplus embeds either Modbus RTU or BACnet communication capabilities.

Contact: Terry Murray, Sales Manager, Xylem Water Solutions Ireland.

Tel: 01 – 452 4444;

email: lowara.ireland@xyleminc.com;

www.lowara.ie ■



Ecocirc-XL from Xylem

New Generation Daiseikai 8 AC systems range

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For further information contact:

GT Phelan

Tel: 01 286 4377

Email: info@gtphelan.ie

www.gtphelan.ie

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Air and Gas Handling Engineers

Engineered Air Pollution Control

Turbo Air (Engineering) Ltd is Ireland's leading specialist supplier of engineered air pollution control systems and equipment. It provides bespoke solutions across all industry sectors, from initial site survey and feasibility study through to project design, equipment manufacture, installation and commissioning.

The company also has a dedicated Service Division providing after-sales service, preventative maintenance and planned maintenance programmes across all industry sectors.

It has a wealth of in-house environmental and mechanical engineering experience and couples this with brand-leading products and equipment from the likes of Munters, Donaldson Torit DCE and Woodcock & Wilson, with whom it has long-standing working relationships.

In addition to managing and controlling both indoor and process emission air quality as per clients' specific needs, the solutions devised also ensure compliance with all relevant statutory and regulatory requirements.

Turbo Air Engineering serves all industry sectors and applications, including pharmaceutical, food production and meat processing. Apart from Conleth McCormack and Miriam McEntee at head office, there is also a team of field engineers that includes William McDonald and Thomas Kelly. Depending on the nature of the project and the client preference, they will engage closely with the client representative, consultant and contractor to ensure that the best-performing and most cost-effective solution is devised and implemented.



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Turbo Air (Engineering) Ltd

Unit 62 Cherry Orchard Industrial Estate,
Ballyfermot, Dublin 10.

Tel: 01 – 626 9500 Email: info@turboair.ie

www.turboair.ie



Donaldson Torit DCE offers innovative filtration solutions for dust collection, fume and oil mist removal. Its products are engineered to improve efficiency, save energy and extend filter life-time.

Over the last 35 years it has pioneered all manner of new dust collection technologies and many of these have gone on to become established industry benchmarks.



Woodcock & Wilson manufactures a comprehensive range of high-quality fans suitable for use in a multitude of industrial applications. Included are axial, centrifugal and bifurcated fans developed over a 30-year period of continuous research and investment.

Recognised across the globe as a leading fan manufacturer, Woodcock & Wilson supplies products of the highest calibre with quality built-in from concept through to precision design, the entire manufacturing process and final performance testing.



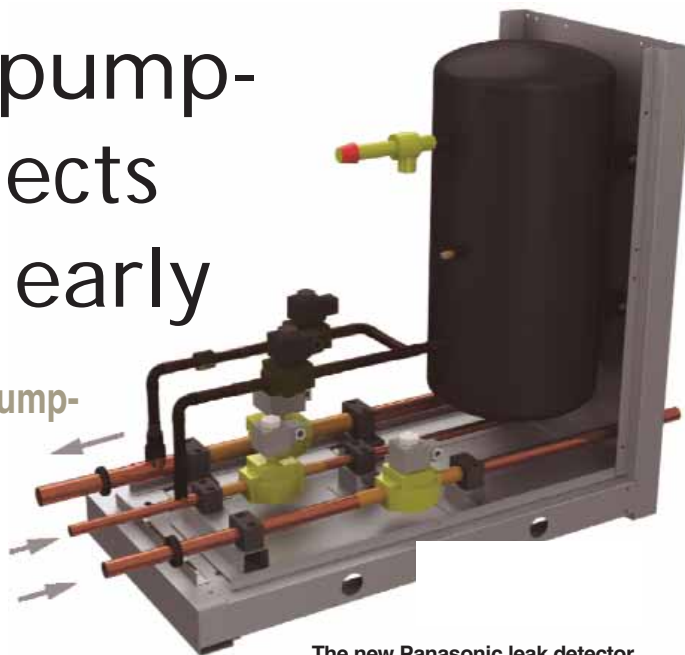
Munters creates optimised indoor climate solutions for applications in pharmaceuticals, food, electronics, agriculture, offices and other commercial premises. They comprise energy-efficient products and systems that help customers maximise their indoor climate and thus raise productivity, quality and comfort.

Today Munters is regarded as a global leader in the supply of energy-efficient solutions for air treatment and damage restoration based on its expertise in technologies for humidity and climate control.



Panasonic's new pump-down system detects refrigerant leaks early

Panasonic has developed an innovative pump-down solution to detect refrigerant leaks in VRF systems, offering complete assurance and protection for end users, building occupants and the environment.



The new Panasonic leak detector

Ideal for hotels, offices and public buildings where safety for occupants and the building owners is of utmost importance, key features and benefits include:

- Complies with F-Gas Regulations;
- Two easy connection methods;
- Protects both personnel and the environment;
- Saves on operating costs;
- Suitable for a variety of commercial applications;
- No additional communication network is needed.

The system monitors refrigerant leakage continually and provides a warning *before* refrigerant leaks damage the system's efficiency and increase running costs. Over time, it can help prevent major refrigerant loss.



The Panasonic ECOi inverter unit

As well as ensuring safe and reliable operation, Panasonic's pump-down system contributes to a building qualifying for additional BREEAM points and achieves compliance with the current EN378 2008 Standard, covering applications where refrigeration concentration levels exceed practical safety limits of 0.44 kg/m³.

The new system can be connected in two ways – either with a leak sensor or an

innovative algorithm. It is extremely cost-effective, straight forward to install, and is suitable for a variety of applications.

Connecting the system with a leak detector ensures the system is suitable for installation in small rooms. Thanks to Panasonic ECOi exclusive software, sensors communicate with the pump-down system directly through its P-Link connection, eliminating the need for additional and potentially-costly communication networks.

The leak detector is connected through PAW-EXCT connector directly to the indoor unit, while the pump-down system is directly connected to the main outdoor unit. The system will activate when a leak is detected in the monitored rooms and any leaked refrigerant will be collected immediately within the outdoor units, or in an optional receiver tank for larger systems.

Panasonic has also developed an innovative new algorithm to determine refrigerant leakage, enabling the system to be connected without sensors. It is able to detect leakage of R410A based on three conditions – high pressure, low pressure and discharge temperature.

The primary functions of the system are:

- Detect the leakage;
- Activate pump down process;
- Collect the gas in the tank;
- Close the valves to isolate the gas.

"Government regulations surrounding refrigerant gases are, quite rightly, incredibly demanding and this is a key reason why reliable leak detection systems are required," says Vincent Mahony, General Manager, Panasonic Ireland. "However, with refrigerant prices continuing to increase, the cost implications of a leak can be extremely high, not to mention the environmental issues.

"For these reasons we see an ever-increasing demand for early detection and preventive systems, hence the development of our new pump-down system which complies with all relevant legislation."

Contact: Vincent Mahony, Panasonic Ireland.

Tel: 01 – 413 5311; Mobile: 087 – 969 4221;

email: vincent.mahony@eu.panasonic.com ■

Wireless Sensor Networks and their applications to building energy management

Wireless sensor networks (WSNs) have been a major focus of basic and applied research in industry and academia for over a decade now, maturing from an early vision of ultra-small, randomly-deployed sensor nodes for niche applications, to a more grounded view of planned deployments in commercially-relevant scenarios. WSNs offer a compelling solution for accurate sensing of the physical world and thus enable a range of new and diverse application domains. WSNs are the foundation for emerging areas such as cyber-physical systems, machine-to-machine communications, and the Internet of Things.

Wireless sensor network technology has been finding its way into building applications for over a decade, and there has been intensive research around the world to try to make these systems more reliable and affordable. Early adoption was often around niche applications, without a proper view of how systems might scale up to offer a real alternative to hard-wired solutions. Through these experiences it has become clear that more work is necessary to enable these technologies to compete with existing solutions in, for example, Building Management Systems (BMS) or energy metering and monitoring.

Ireland is well placed to make a real impact in this area with existing strong research capability and hosting major

global players in ICT. The International Energy Research Centre (IERC) has therefore made this an important area of focus in its research programmes. In 2013 the IERC commissioned a study into the key barriers to the wider adoption and uptake of WSN technologies in buildings and the urban environment. This article highlights some of the key findings of the study and indicates some of the major opportunities for WSN in the coming years. The study was prepared and completed by Tony Day (IERC), Dirk Pesch (Cork Institute of Technology and Tyndall National Institute), Cormac Sreenan (University College Cork), Stephen Brown (NUI Maynooth) and Brendan O'Flynn (Tyndall National Institute and University College Cork).

Key research areas

Set against the backdrop of the slow adoption of WSNs, the IERC commissioned an in-depth review of WSNs technology areas in the form of an Innovation Needs Assessment (INA). The review report highlights the current weaknesses and gaps in WSN technology that may be acting as obstacles to technology uptake, identifies the main challenges for further research, and assesses the potential impact if these were to be solved.

In conjunction with the IERC and industry partners a review methodology was agreed. This focused the review on three relevant WSN use cases, i.e. commercial buildings, home networks, and smart cities, together with a set of four technical constraints, i.e. energy, cost, interference and computation.

Technology and innovation space

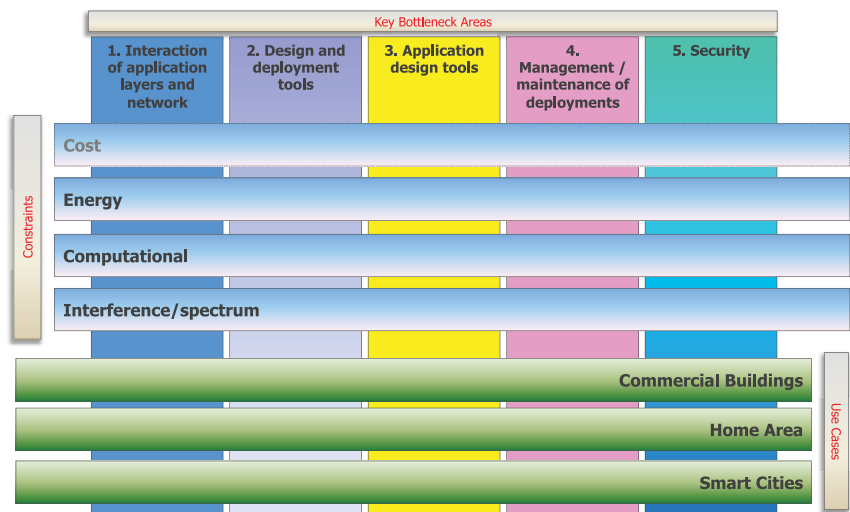
Many solutions exist in some of the key technical elements and industry has been moving quickly to enable new products based on standards such as IEEE802.15.4/ZigBee, Z-wave, Wireless HART, and ISA100.11a. The WSN-INA has identified the main barriers to widespread adoption of wireless sensor network technology. These were energy performance and battery life, WSN commissioning, application development and deployment, the management and maintenance of WSN deployments, and security/privacy of data.

Energy management is a major issue for WSN technology. The uncertainty about a WSN's lifetime due to battery charges still inhibits widespread use of the technology. While perhaps not an issue in home applications if users

are informed about required battery changes (none of us has a problem charging our smartphones every day), frequent battery charging or changes are seen as too expensive for commercial building or smart city domains.

While there is a requirement for development of innovative algorithms for energy management, there is much scope for energy harvesting technologies, e.g. multi-source power harvesting management, thin film integrated energy harvesting, and energy storage for multi-source energy harvesting that can overcome the current powering problem of WSN for a wide range of applications. Multi-source power harvesting can offer interesting solutions, particularly where typical solar cell-based harvesting is not an option. There is potential in the development of cost-effective multi-radio solutions that are robust to radio interference, can be energy-optimised by selecting the best frequency band, and allow building-tiered WSN solutions in large scale deployments.

Challenges also need to be addressed in deployment planning and commissioning of WSN. Achieving a reliable deployment is necessary to avoid energy wastage and interference problems which still bug many existing deployments. Currently there are no easy-to-use tools available to support this. Commissioning, i.e. linking sensor locations with back-end data processing systems, is still a very manual and time-consuming process and automated commissioning systems are needed. The pre-deployment design of wireless sensor networks and their applications has still to be carried out by expert system integrators, impacting deployment costs and limiting usability.



It also often leads to problems with applications, certainly initially, as WSN designers are typically not use-case domain experts. The development of design and decision support tools to allow users to compose a WSN from available hardware and software components for a particular use-case will dramatically reduce the time, effort and cost associated with even small-to-medium sized WSN deployments. A further challenge is the difficulty in developing applications for particular platforms. Addressing this could lead to a much larger adoption of the technology across different market sectors by allowing domain experts to build their own WSN applications. Such tools need to be flexible and extensible to support multiple hardware platforms, operating systems and communication technologies.

Once deployed and commissioned, WSN are expected to operate for long periods of time, typically many years, without problems. As with all technical systems, proper maintenance and management is vital for correct long-term operation. A critical function here is fault detection and recovery. In WSN this process needs to be automated as much as possible. Opportunities exist in the development of a maintenance tool

that incorporates techniques to schedule, predict, and defer physical maintenance. Currently there is no tool for maintenance support in the market and any problems with WSN deployments are dealt with in a very costly manual and *ad-hoc* fashion. Offering proper tools will provide opportunities for cost reduction and enable better use of WSN technology by use-case experts.

Software upgrades are an integral part of long-term maintenance for WSNs. We are well used to dealing with software updates on desktops, laptop computers, tablets and smartphones. However, while much power is consumed in updating software on these devices, we are also used to charging these devices on a frequent basis. Software updating for WSNs needs to be optimised as it is critical to make the whole process energy-efficient and robust.

There is much opportunity in the whole space of WSN management. Any technical system that is required to operate reliably needs proper management systems. Telecommunication and power networks are among the most reliable technical systems and the industry has

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spent a long time perfecting management tools and techniques for such systems. There is much ongoing research in WSN management and developing self-management techniques for WSN, while also keeping the human in the loop to create confidence in the proper operation of such systems.

Data security is an issue for all networked systems and WSNs are no exception. Much work has been done here already but more is needed, in particular as WSN are used increasingly in critical infrastructure management applications. There are opportunities, particularly in topics of application level security and security for public sensor networks.

Conclusions

Wireless sensor networks (WSNs) have been a major focus of research for over a decade now, maturing from an early vision of ultra-small, randomly-deployed sensor nodes for niche applications, to a more grounded view of planned deployments in commercially-relevant scenarios. WSNs offer a compelling solution for accurate sensing of the physical world, are the foundation for the emerging areas of cyber-physical systems, machine-to-machine communications, and the Internet of Things, and thus enable a wide range for new applications.

Despite the clear importance of the technology and these broad advances, WSNs have yet to see widespread commercial adoption, and with some exceptions, industry has been reticent in embracing WSNs. To promote the



uptake of WSN technologies it is necessary that these systems are low-cost, easy to deploy and maintain, retrofittable, and provide reliable data for long periods with little or no human intervention. The key technology development activities required to enable this are in the areas of:

- Energy efficient design and operation of sensor nodes, including energy harvesting, storage and management for individual nodes and network-wide to achieve significant impact on system lifetime, computational capabilities and cost of ownership of WSNs over their operational lifetime;
- Development of a holistic tool chain

supporting the lifecycle from design to deployment planning is needed, requiring research on a set of topics including capture of domain knowledge, configuration and planning algorithms, and on-site analysis techniques for cost-effective deployments;

- Automated maintenance regimes to reduce the impact on operational costs. A comprehensive set of techniques is needed that can be leveraged within a management toolset with domain-specific behaviour;
- Security remains a major challenge for WSNs, with increasing relevance in the context of Internet-connected devices and the use of WSNs for critical infrastructure management in buildings and cities. Pragmatic solutions are needed that can be implemented without unacceptable cost or energy implications. ■

“ WSNs offer a compelling solution for accurate sensing of the physical world and thus enable a wide range for new applications ”



- Simple to use
- High efficiency
- Non-invasive
- Small size/lightweight

The Tinytag Energy Logger can be used to monitor single and three phase energy supplies. It combines the level of performance required by experts with the level of simplicity required by those that are new to energy management.

The unit is ideal for monitoring building energy supply, sections within a building or individual pieces of equipment.

Data from the Tinytag Energy Logger can be used to identify power hungry or inefficient equipment and peak load times, and can highlight equipment that is left powered up or idling unnecessarily.

The Tinytag Energy Logger provides visibility of energy usage so that effective measures can be taken to reduce electricity bills, lower carbon footprint and improve environmental performance.



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The Tinytag Energy Logger can be used to monitor single and three-phase energy supplies, combining the level of performance required by experts with the level of simplicity required by those that are new to energy management.

Tinytag Energy Logger – sophisticated but simple to use



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The Tinytag Energy Logger provides visibility of energy usage so that effective measures can be taken to reduce electricity bills, lower carbon footprint and improve environmental performance. Features and benefits include:

Portable

Supplied in its own carry case, it is small and lightweight.

Easy to use

Select the required wiring configuration and the logger will display step-by-step instructions for the coil and cable connections.

Quick and easy coil fitting

Current is measured using non-invasive flexible coils that can easily be clipped around conductors (where larger rigid clamps may not fit) and the voltage reading is taken from a standard mains cable.

Self-configuring

Once connected, the unit will self-configure and current, voltage, power and power factor readings will be displayed.

No complicated set up procedures

Current coils do not have to be connected in the direction of the current flow and coils do not have to be matched to specific sockets. The coils supplied can loop around conductors up to 85mm in diameter.

Spot checks or long-term monitoring

Tinytag Energy Logger can be used for spot checks or for longer term monitoring to build up energy usage profiles.

On-site PC not necessary

No computer is required to start the data logger. Recording can

be started/stopped multiple times to allow different pieces of equipment to be monitored. Separate files are created for each logging run, ready for viewing in Tinytag Explorer.

Hanging option

There is a magnet fitted to the back of the logger so it can be attached to metal panels while in use.

Display

The unit's display shows instantaneous rms current (A) from all three phases, the instantaneous rms voltage (V) and an instantaneous overall power figure (kW).

Automatic software calculations

When data is downloaded in the Tinytag Explorer software, the information is calculated and displayed.

Automatic waveform detection

The voltage reference records the waveform of one of the phases and this is used as a reference for the other two.

High accuracy

The logger samples a 5kHz burst of data every few seconds, building up an accurate profile of the waveform.

Logging

When logging three-phase current and voltage, the unit will record six weeks of data at the default five minute logging interval (this can be changed to anything from 30 seconds to once every 10 days, using the Tinytag Explorer software).

Battery power option

When monitoring with the voltage connected, the unit will power itself from the mains. When logging current without the voltage connected, the unit can record for two months using four user replaceable AA batteries.

Contact: Robert Gilbert, Manotherm Ltd. Tel: 01 – 452 2355; email: info@manotherm.ie; www.manotherm.ie

Sophisticated controls that also cater for the less able

Myson Controls, based in Newcastle West, Co Limerick, has been at the forefront of the Irish heating market for decades. As modern-day market requirements have become more sophisticated, Myson Controls has developed a range of advanced products and systems that are highly energy efficient and cost-competitive.

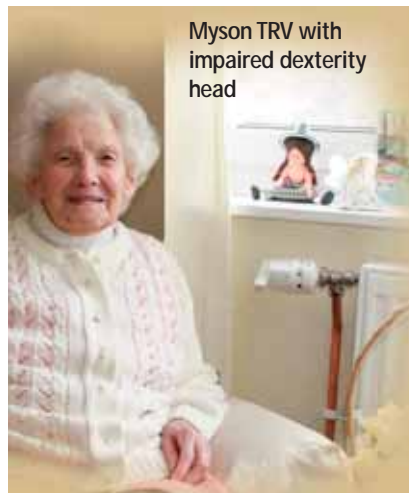
Historically, heating controls

consisted of no more than a switch to turn the central heating pump on and a set of manual radiator valves to turn individual radiators on/off ... how times have changed!

Today Myson Controls offers a wide and varied range of control products, ranging from the simple but effective radiator valve right through to smart phone controlled systems.

The latest addition to the range is the "Three Zone Pack". As the name suggests, the pack provides all the products necessary to fully control three zones – usually the upstairs, downstairs and the hot water circuit.

Included in the pack are three MPE zone valves, two room thermostats, one cylinder thermostat, a 3-channel programmer, wiring centre and full installation instructions.



Myson TRV with impaired dexterity head

To complete the control system simply add Myson TRV's to each radiator and the result is a

fully-controlled heating system that will deliver excellent comfort and significant energy savings.

But it is not all about aesthetics and energy efficiencies ... ease of operation is vitally important, especially for the elderly and less able. Consequently, Myson Controls has worked closely with various agencies to modify controls to make them particularly suitable for this kind of application. The result is the Myson MRT1 Braille Room Stat and the Myson 2Way TRV with the impaired dexterity head.

The Room Stat has elements of Braille to locate a temperature range of 15°C to 25°C. In addition, this temperature range is highlighted by a black quadrant on the dial for easy visual recognition.

As for the Myson TRV with impaired dexterity head, these controls are easily adjustable, even by those with severe arthritis. In addition, the large clear markings on the TRV head make it easy to achieve the setting required.

Meanwhile, the Myson TRV 2-Way has been around for a long time but, in response to industry changes, was first modified to operate whichever way the water was to flow through the valve (hence the 2-Way), and then to ensure that if the valve was closed off and the radiator removed, there was no danger of water being released from the valve on a cold night. Hence the positive shut-off facility.

The Myson TRV 2-Way also carries the TELL A-rating, confirmation that it meets the highest of standards. Add to this the variety of valve bodies available, with or without the addition of push-fit connections, and Myson provides a product that is suitable for all applications.

There is also the Myson Touch range of programmable thermostats that allows the user to set different room temperatures for the morning, day, evening and night time. Easy to use, the touch screen is clear and bright, the instructions are simple, and the unit is slim and stylish.

The Myson Touch incorporates "smart start" technology that saves energy and money by delaying the heating start-up time when the weather is warmer, and ensuring that the home is warm when needed. Features include temperature hold, temperature override, and holiday function. Two models are currently available – the Touch and the Touch RS.

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



Myson Three-zone control packs

Chronotherm portfolio covers all applications

Chronotherm Controls Ltd specialises in heating controls for domestic and semi-commercial applications, providing solutions to satisfy both comfort and energy-efficiency requirements, in addition to helping clients meet building regulations and to achieve higher BER ratings. The portfolio includes both hard-wired and wireless products, and comprises a mix of own and market-leading brands from some of the world's foremost manufacturers.

As a technology-led company Chronotherm Controls has a wealth of experience across all industry sectors with highly-qualified in-house staff capable of resolving virtually any controls application.

It channels the expertise, design and technical support of its suppliers to its customers, thereby strengthening the trading partnership between all concerned. This includes regular educationals and demonstrations on the use of the products for both wholesale staff and installers.

The portfolio includes:

- Hager programmable room thermostats that regulate the ambient temperature of each room according to the time of the day and the settings required, thereby saving up to 16% of annual heating costs;
- Flash Immermat timers designed for the timed control of immersion heating boilers, lighting, watering systems, etc;
- Sangamo Powersaver range of simple-to-use, multi-application controllers which offer a choice of programming functionality and flexibility;
- Chronotherm Controls own-brand range is called CTC and comprises the Ezi Fit range of high-quality, multi-purpose, programmers designed specifically for the needs of the Irish marketplace. There are three models to choose from – a single-channel version (with volt-free connection), along with 2-channel and 3-channel versions. There is also the Ezi Fit motorised valve and actuator (available in 3/4" cc, 1" cc, 22mm and 28mm).

In addition, Chronotherm Controls is a leading stockist of Danfoss controls including room stats, TRVs, wireless controls (industrial and domestic), motorised valves and control packs.

As the foregoing illustrates, Chronotherm Controls has a solution to cater for every project size and type, be it a domestic, industrial or commercial application.

Contact: Tom Noone, Chronotherm Controls.
Tel: 01 – 410 5756; email: sales@chronotherm.ie;
www.chronotherm.ie ■





DIAMOND AIR CONDITIONING LTD.



Your new partner for
MHI products in Ireland



Our Technologies, Your Tomorrow

Mitsubishi Heavy Industries appoint Diamond Air

Mitsubishi Heavy Industries Airconditioning Europe (MHIAE)

– the European arm for air-conditioning products of the machinery, equipment and infrastructure domain of Mitsubishi Heavy Industries, has appointed Diamond Air Conditioning Ltd as its distributor for Ireland for its full range of HVAC products.

MHI offers reliable high efficiency air-conditioning systems for a variety of sectors such as residential, commercial and industrial. Today, MHI has 80,583 employees and annual sales of over €24 billion, with products ranging from air conditioning to aerospace, and from power systems to ship building. MHI manufactures more than 700 different product ranges for various industrial and civil markets across the world, and has a long history in the design and manufacturing of refrigeration systems dating back to 1920.

While Diamond Air Conditioning is a new company, it too represents experience and longevity in the sector. Directors Michael Clancy and Graham McCann have been involved in the supply and distribution of premier air conditioning and refrigeration brands throughout Ireland for many years.

Michael's initial introduction to the MHI brand dates back almost 25 years and this new appointment reaffirms his association with, and commitment to, the extensive range of ground-breaking products it represents.

Graham has also had an ongoing association with the MHI brand. He has

been actively involved with the supply and distribution of MHI throughout Ireland over the last 10 years and his involvement represents continuity and a strong base for growth and development going forward.

MHI is already a respected and much-installed brand across all market segments in Ireland. For instance, MHI's high-efficiency KX VRF units were extensively used in the 91-bed Glass House Hotel in Sligo, while MHI also features across diverse applications such as the chain of Odeon Cinemas, Foot Locker's 29 retail outlets, and Costa Coffee which has 100 cafes throughout Ireland.

"MHI is a premier brand offering high performance efficiencies, energy savings, reliability and value", says Michael Clancy. "The range is diverse so we can offer solutions for every application, and across all industry sectors. In addition to product, we also provide design advice and technical support to ensure the best possible solution is chosen for each project."

MHIAE Managing Director, Mr Takehiko Kikuchi, is very excited by the new partnership and he recently visited Ireland to endorse the appointment and demonstrate his support for the new venture. "Over the years we have always had a solid presence in Ireland", he said, "but this new partnership with Diamond Air Conditioning will see our market share grow considerably. Ireland is now set to emerge from the problems which beset the economy in recent years and our intention is not just to share in that upturn but to help drive and develop it for the benefit of all".

“ Our intention is not just to share in the upturn of the economy but to help drive and develop it for the benefit of all.



Graham McCann, Director, Diamond Air Conditioning with Takehiko Kikuchi, Managing Director, MHIAE; Ms Annemarie Schaal, Distribution Sales Representative, Sales Division A; Michael Clancy, Director, Diamond Air Conditioning and Ryoichi Kariya, General Manager Distribution, Sales Division A.

Diamond Air Conditioning Ltd,
C5 Bymac Centre, Northwest Business Park,
Blanchardstown, Dublin 15. Tel: 01 – 636 3131;
email: info@diamondair.ie;
www.diamondair.ie

Ex-stock availability

While MHI is long-established in the Irish market, Diamond Air Conditioning's appointment marks the first time product is available ex-stock from an Ireland-based distribution centre. Next-day delivery is provided across Ireland while product can also be collected if the need arises.

Dealer network

Diamond Air Conditioning

is currently in the process of appointing a dealer network to ensure nationwide coverage. It will work closely with those strategically-located partners and support them in delivering customised solutions across all project applications. While much of the network is already in place, dealers who wish to grow their businesses with the MHI brand are welcome to apply. Call Michael Clancy – 087 - 262 0701; Graham McCann – 087 - 950 9402.

CPD and training

Diamond Air Conditioning

runs a continuous educational/training programme that includes CPD seminars, hands-on workshops, and a nationwide roadshow taking in key locations throughout the country.

Right: MHI's KX VRF system offers simple and flexible solutions for commercial and industrial applications



High efficiency products and systems

The MHI portfolio is massive and comprises high-efficiency products and systems for cooling and heating air and water in residential, commercial and industrial applications. The primary product groups are Split Systems, VRF (KX), Heat Pumps, and Controllers/Accessories. Brief details of each are as follows:

Split systems – MHI offers a wide range of versatile and energy-efficient single and multi-split systems, to cover small and medium-size commercial applications and residential setups. All are available with a wide range of controllers.

VRF – MHI's KX VRF system offers simple and flexible solutions for commercial and industrial applications, with up to 80 indoor units in a single system. Sophisticated controls, combined with the latest technology, ensure reduced energy consumption and high efficiency rates.

MHI is in the process of launching its new VRF KX series. Please contact Diamond Air Conditioning for further details.

Air to water heat pumps – MHI's air-to-water heat pumps are cost-efficient and provide energy savings for a variety of applications.

The highly efficient Q-ton is an air-to-water heat pump which uses CO₂ as a refrigerant. The unit is designed for commercial applications and can produce up to 90°C hot water from a single 30 kW unit.

Up to 16 units can be connected together to feed one, or more, storage tanks to meet higher demand (3000 to 100,000L/day).

There is also the Hydrolution range of air-to-water models that are mostly used for domestic space heating and cooling. They can also produce sanitary hot water at up to 65°C.

Controllers – MHI's sophisticated range of controllers provide options for simple system control and monitoring (locally or remotely), and ensure ease of operation and long-term reliability.



Our Technologies, Your Tomorrow

**DIAMOND AIR
CONDITIONING LTD.**



Some of our biggest fans are engineers.

For our customers it's comforting to know that as an engineering company, we understand that working with air conditioning, heat pumps or chillers isn't always a breeze. To ensure our products are adaptable to any environment and meet the grade, they are designed by engineers, for engineers.



Our Technologies, Your Tomorrow

Technical Guidance Document TGD-030 impacts boiler selection

Update and changes summary

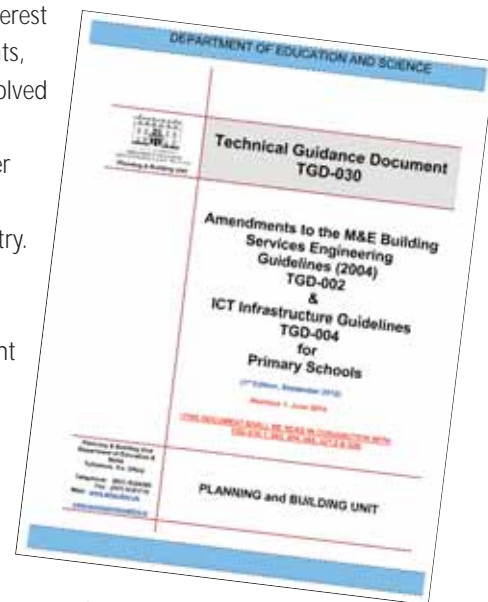
In this article David Doherty (pictured below) reviews the Department of Education and Skills' (DoES) recently-updated *Technical Guidance Document (TGD-030) Mechanical and Electrical Building Services Engineering Guidelines*, and details in particular the changes in respect of boilers. David is a chartered engineer with almost 20 years experience in the building services industry, is Vice-Chairman of CIBSE, Republic of Ireland and Projects Manager at Hevac Ltd.



TGD-030 Mechanical and Electrical Building Services Engineering Guidelines covers primary and post-primary schools and its scope is to offer better guidance to school authorities, and to aid mechanical/electrical engineers in design.

TGD - 030 should be of interest to building services consultants, contractors and suppliers involved in schools works and, in particular, the current summer works scheme underway at schools throughout the country. The document covers various design features including natural ventilation, boiler plant and rainwater harvesting.

This publication of the latest revision follows consultation and communication between the department and building professionals, designers and suppliers/manufacturers. It has been widely welcomed and endeavors to future-proof the M&E services provided in schools. Key changes include:



Daylight Distribution

Average daylight factor for rooms remains at a minimum of 4.5%. The document notes that: "Higher levels just lead to unnecessary heat gains and losses";

Ventilation

Natural ventilation is to be considered where possible via permanent wall vents and windows. The guideline notes that: "good quality ventilation is critical to the functioning of a teaching space". The latest revision highlights thermal comfort levels. The maximum time a room can exceed 25°C is 51.85 hours. However, this is an absolute maximum and design team members should endeavour to maximise the thermal comfort potential;

Blinds

The specification on blinds now includes light transmission values 9 – 12%; solar absorption 17-20%; openness factor 3 – 5%, depending on elevation. All blinds to be light and identical in

colour. Instructions on operation to be included to try reduce energy costs;

Access

The document draws attention to Part M Access & Use. It highlights sensible and thought-out locations for light switches, sockets and lift equipment. This is something every project tries to achieve through coordination and layout drawings;

Boiler House

Maximum plant room sizes are now detailed and linked to number of classrooms;

Boilers

Where natural gas supply is available, suitably-sized aluminum or stainless steel modulating boilers shall be provided. This allows for a more efficient selection, and the inclusion of modulating allows for better turn-down ratios on boilers. Weather compensation and three-port mixing valve arrangement with an outside sensor brings the specification up to date with modern wall-hung and floor-standing boilers;

Radiators

Radiator metal thickness, minimum 1.5mm. No fan assisted radiators allowed;

Controls

Clear instructions on heating controls now required;

Water Supply

Test point in boiler house now to be allowed for water sampling, in addition to a dosing point for commissioning and disinfection. The document highlights the requirement for drinking points as per TGD002 and mains water should not be piped to wash hand basins;

Rain Water Harvesting

A new sizing guide is now included for underground storage tanks. No mains

“ This publication has been widely welcomed and endeavors to future-proof the M&E services provided in schools.

water connection should be made to a tank. Anti-legionella requirements are highlighted along with rainwater tap labelling;

Water Services

Attention is drawn to national and international standards that minimise the risk of legionella;

Water Tank Ventilation

Cold water tanks are to be stored below 20°C. Consideration is drawn to stagnate water and calls on both architects and building services engineers to ensure risk of legionella is minimised. If passive ventilation is needed a duct to outside can be considered;

Sanitary Ventilation

All sanitary facilities, including en-suite classroom toilets, to be provided with background ventilation. Shower areas 15 l/s per shower. Toilets 6l/s per WC. En-suite bathrooms must contain an external window, in addition to a mechanical fan, with run-on timer controlled by light switch. Floor grilles and door transfer grilles should not be

used with undercut doors and high level transfer grilles are preferred. All systems to be tested and commissioned in accordance with CIBSE commissioning codes;

Dampers

All dampers to shut off when fan not in use. A non-return damper to be provided on ducts of 150mm or less. Motorised dampers are required on larger duct sizes;

Power Distribution

Residual current breaker and overloads need to allow for heavy-duty floor cleaning equipment. Lightning protection to be considered. Electronic surge protection required on incoming mains supply at mains switchboard;

Lighting

LED type fittings are to be considered for external, car park and security lighting. Payback of 10 years is required. CCTV compatibility is required. On internal spaces, LEDs can only be used in





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innovation
quality
reliability

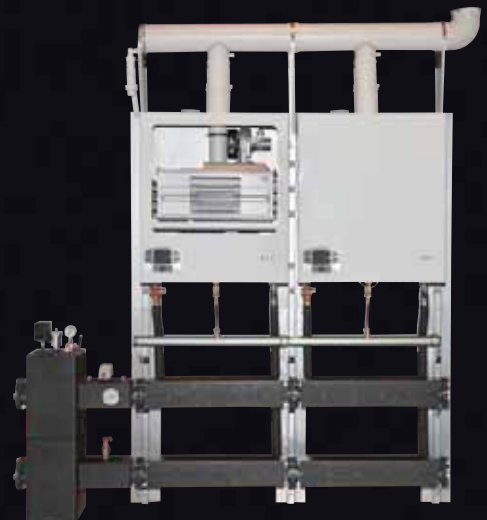
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Energy Top – Floor standing

Cabinet heat generators featuring a premix burner, condensing operation, very high efficiency and very low polluting emissions.

Cascading connection of multiple generators can be arranged using special flue gas and water circuit accessories.

The models are configured for operation on natural gas but can be converted to LPG using a special conversion kit.



Featuring Ferroli fin and tube aluminium heat exchangers

Econcept – Wall/frame mounted

Wall/frame mounted modulating condensing boiler for heating premix burner with very low emissions. Designed to operate on natural gas or LPG.

These generators have been designed to be installed in modular configurations (up to five) to extend the benefits of high-efficiency heating to larger applications.



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Cutting-edge heating solutions incorporating engineering excellence

Since it was established in 1985 Euro Gas has been one of Ireland's premier solutions providers to the heating, hot water, air conditioning and ventilation sectors. Its core philosophy is to deliver engineering-led solutions using its own technical expertise, allied to that of some of the world's foremost product manufacturers. It represents many market-leading brands, among them Remeha, the Netherlands-based manufacturer of innovative heating and hot water systems and services.

It's hardly surprising that Euro Gas and Remeha have forged such a strong and enduring trading partnership over the last 25 years. Quality and technical excellence are fundamental to both and their combined strengths have seen them capture the lion's share of the commercial heating market in Ireland.

The list of prestigious projects they are responsible for across all primary industry sectors includes prisons, pharmaceuticals, electronics, education, financial institutions, hospitals and technology. Google, Apple, AIB, Hewlett Packard, Government Departments, JP Morgan, St James', The Mater and Temple Street Hospitals, the Department of Education rapid-build schools/summer works, PayPal, SIG, Trinity College, NUI Galway and Farmleigh are among the high-profile end-users catered for.

Euro Gas is director-led with the combined experience of all staff representing over 100 years experience in the mechanical services industry. This expertise, and the related products and systems solutions put forward, are delivered to end users through building services consultants, mechanical contractors, architects and a nationwide network of factory-trained service and commissioning agents.

For its part Remeha is the founding company of the BDR Thermea Group which employs 6400 people across Europe with annual sales close to €1.8 billion. Remeha produced its first central heating boiler in 1933 and has been developing condensing boilers since the 1970s. It produced

the first high-efficiency wall-hung boiler in 1990. With a strong R&D focus and a strong financial position, it is industry leader in the emerging market for low carbon, energy efficient heating products. No matter what the application, Remeha has a solution.

In addition, Euro Gas offers Pak Plant to meet the growing requirement from specifiers and contractors for the provision of off-site solutions to sites where projects are on a tight programme, or where flexibility is needed and the boilerhouse may need to be moved at a later date. Euro Gas produced its first packaged boilerhouse almost 15 years ago and, due to the success of this unit, established a sister company called Pak Plant Ltd later that year.

As the foregoing illustrates, Euro Gas and Remeha offer dynamic, cost-effective, low-carbon, energy efficient commercial heating solutions across all industry sectors. Everything from the engineered quality of the products through to cutting-edge technology and dedicated design support, installation and commissioning makes for a formidable service that few competitors can match.

Contact: Euro Gas.
Tel: 01 – 286 8244;
mail: sales@eurogas.ie;
www.eurogas.ie



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GAS 310 ECO PRO		GAS 610 ECO PRO	
-5	51-[261]kW	-5	69-[522]kW
-6	65-[327]kW	-6	87-[654]kW
-7	79-[395]kW	-7	123-[790]kW
-8	92-[461]kW	-8	122-[922]kW
-9	106-[530]kW	-9	148-[1060]kW
-10	119-[601]kW	-10	158-[1202]kW



Technical Guidance Document TGD-030 impacts boiler selection

corridor and toilet areas. Elsewhere, lighting power consumption levels of 2.5w/m² per 100 lux shall be the maximum in all areas. Lighting detectors, plus operation instructions, also required.

Also, corridor lighting zones need to consider daylight influences and have local PIR controls alongside local switches. The document looks for commissioning and a re-visit 12 months after handover to ensure levels maintained;

Emergency Lighting

Installations are to comply with IS3217:Dec.2013. Economical solutions are to be considered with ceiling-mounted LED fittings rather than inverter driven packs. The DoES takes the view that a classroom is not a large assembly room. A single fitting will comply, allowing 0.5lux at floor level. Siting of lighting to consider routes and location of emergency equipment;

Communications

In public address systems, local volume control required in classrooms with special education needs. Regarding induction loop systems, the loop cable is not to be run in steel conduit or in the floor;

Fire Alarm Systems

Systems to comply with IS3218: Dec.2013. Open protocol type fire alarm systems only shall be provided in schools.

The document concludes by outlining handover documentation and requirements for labelling in the control and operation of the equipment. For further information on all the DoE documentation – and to download the entire file – visit their website: www.education.ie/en/School-Design/Technical-Guidance-Documents/ ■

Implications of revised guidelines on boiler selection

The recent changes to TGD-030 (Mechanical and Electrical Building Services Engineering Guidelines) in respect of boilers now officially widen the specification options and boiler plant selection opportunities for consultants, contractors and end-users.

Section 11.2 covers boiler selection specification. The revised issue now reads: “where natural gas supply is available, suitably-sized aluminium or stainless steel modulating boilers shall be provided”. The key wording here is aluminium. This change now allows for more competitive and efficient condensing boiler plant to be considered.

Aluminium has a number of favourable characteristics. The alloy is perfect for casting of boiler bodies with complex shapes which allow increased surface areas for maximum heat transfer with low water volumes.

As aluminium conducts heat better, in choosing this material, we can significantly reduce the exchange surfaces to achieve the same output transmission to the heating circuit with

a smaller exchanger. At an equivalent output, aluminium heating bodies are therefore significantly more compact. Aluminium is three times lighter than stainless or copper.

The compactness of aluminium exchangers – combined with its excellent thermal properties – allows mechanical contractors to take advantage of significant weight reductions with the same amount of power.

Aluminium silicium is extremely flexible, which allows considerable temperature differences (up to 30K) between the boiler flow-and-return. There is no risk of metal fatigue caused by repeated thermal shocks throughout the heating season which can lead to breakage of components.

The thermal conductivity of aluminium (99.9% purity) is 237 (W.M-1.K-1 @ 20°C) while stainless is 46 (W.M-1.K-1 @ 20°C). This represents a greater heat transfer by five times that of stainless steel. This in turn allows for smaller exchangers and boiler sizes. The density of steel is more and therefore weighs

Material	pH zone													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Iron / Steel	Red						Green				Grey			
Copper	Red						Green				Grey			
Bronze	Red						Green				Grey			
Aluminium	Red						Green				Grey			

Figure 1 – Water quality parameters are measured by pH, hardness, conductivity and chloride levels.

Exclusive Agent of

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Hevac's reputation has always been one of strength in respect of the scope and diversity of our product portfolio, and is also complimented by a work force representing vast experience, practical know how and technical excellence.

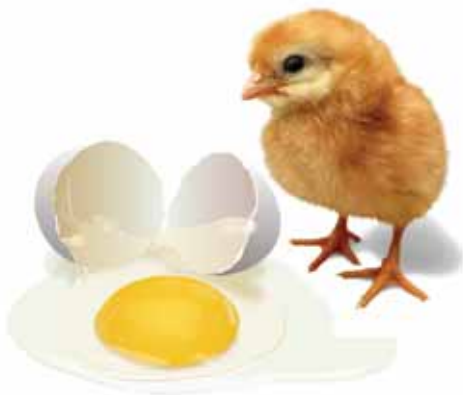
Hevac, through our vast product range and in conjunction with our sister companies offer an unrivalled design and supply capability on projects from residential schemes through to large industrial steam systems to district heating and other renewable energy projects.

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of steel is more and therefore weighs more. This can become an issue on large boiler plant for installation and building structural loads.

The construction of stainless steel heating bodies involves weld assemblies, folds and pressed parts which are susceptible to the constraints relating to the operation of the boiler. The changes in temperature relating to the operation of the boiler are the root cause of stress in materials. These manufacturer welds and lock seams can be a weakness in the exchanger assembly. An aluminium boiler does not incorporate any folds or welds.

Alloy resistance to acidic conditions is critical, especially during condensing mode. Aluminium can resist these corrosive conditions due to its ability to become passive. On contact with water or oxygen, a non-porous protective layer of aluminium oxide is formed naturally. This is alumina, or the passive layer. It is this layer that makes the alloy suitable to the condensing conditions of modern boilers.

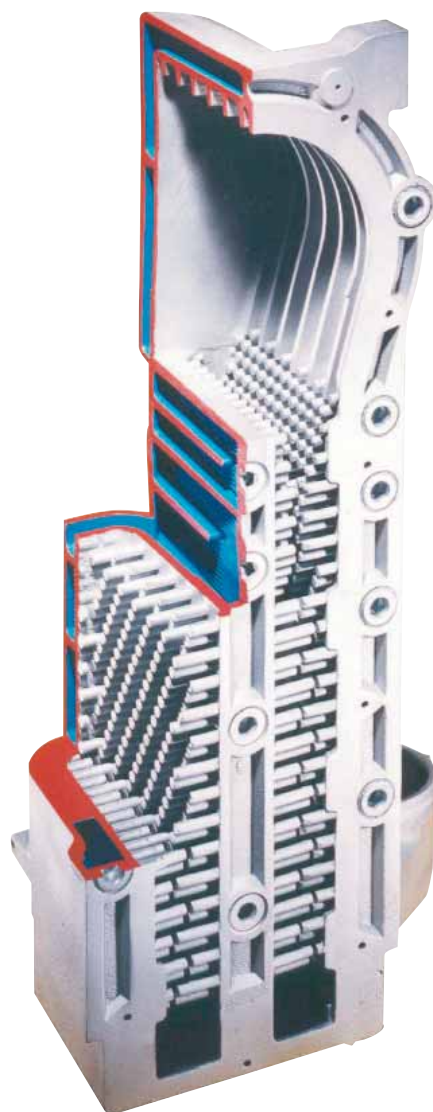
As the boiler is not susceptible to thermal shocks, the boiler can have low return temperatures. thus allowing it to condense and therefore recover heat. During condensing operation, the condensate run-off flows down over the heat exchanger. This acts as a method of self-cleaning by preventing the accumulation of any residues and non-combustible materials on the exchanger and, in effect, continuously washes the exchanger.

In order for any heating system to operate properly clean neutral water is ideal. The addition of an inhibitor to the system at commissioning stage will keep any remaining grit in suspension and prolong the life of the system and the boiler. Proper system flushing to rid the pipes of filings, dirt or grit is recommended.

Water quality parameters are measured by pH, hardness,

conductivity and chloride levels (see Figure 1). These levels will vary geographically from county to county. The table shows why it is necessary to include a protective inhibitor. Steel and cast iron corrode easily on contact with water, as the pH of the water network is not naturally compatible with these alloys. Conversely, aluminium presents good resistance to neutral or even acidic pH, and is one of the metals most resistant to corrosion due to its broad tolerance range.

In conclusion, aluminium silicium boilers have a number of positive characteristics – including corrosion-resistance, longevity, ductility and conductivity – and these are prime considerations when specifying or making boiler selections. ■



Baxi EcoBlue marks new boiler era

EcoBlue is a pioneering range of boilers set to make easy work of the complex boiler installation process for today's busy heating engineer. It is the result of an extensive Baxi research study which identified ease of installation, efficiency and reliability as the top priorities for heating installers.

In terms of eco-credentials, EcoBlue boilers have a modulation ratio of 1:5, meaning they are very efficient and economical to run. According to the Energy Saving Trust, they help to reduce household energy bills by up to €360 a year.

For the first time, the boilers have new, convenient upright packaging with parts assembled as they are required, making them easier to transport and unpack on site.

Adding to the ease factor, all boilers in the range are compact and have been designed to be easy to install, with a wall jig that has an audible positive fix when the boiler is positioned, and accessible connections. This means they offer easy access for straightforward servicing, with no special tools required. There is also an industry-leading choice of flue lengths, bends and accessories.

The EcoBlue range includes EcoBlue Advance Heat, the EcoBlue Heat, the EcoBlue Combi, the EcoBlue Advance Combi and the EcoBlue System. All are available at a variety of different outputs to suit each particular application.

Baxi EcoBlue Heat and Baxi EcoBlue Advance Heat are, at less than 20kg, the lightest boilers on the market and small enough to fit into a cupboard for a discreet finish. Both feature a central flue, and no permanent live or pump over-run is required. This makes for an incredibly quick and safe retrofit.

Paul Clancy, Managing Director of Baxi Potterton Myson in Ireland, comments: "From inception through to design and delivery, EcoBlue has been created with



“EcoBlue Heat is the real stand-out, being the easiest retrofit on the market”

installers' needs in mind. With increasing safety and efficiency legislation, not to mention heightened competition and issues with non-genuine products, we are well aware that installers already have enough to deal with.

"We want to make life easier for installers, so with EcoBlue they can be assured of the highest integrity of product, unrivalled reliability, exceptional ease of installation and, of course, high efficiency each and every time.

"While EcoBlue offers a range of models to suit every property, EcoBlue Heat is the real stand-out, undoubtedly, being the easiest retrofit on the market. Not only is it small enough to fit into a cupboard, but it can be fitted quicker than other conventional heat-only boilers."

The Baxi EcoBlue Heat has a central flue and is available in 12kW, 15kW, 18kW, 21kW and 24kW outputs, while the EcoBlue Advance Heat has an additional rear flue option giving it a smaller, neater footprint. This makes it suitable as a replacement for old balanced-flue appliances. It is available in 13kW, 16kW, 19kW, 25kW and 30kW outputs.

The Baxi EcoBlue + Combi has a small footprint and excellent hot water flow rates, and 24kW, 28kW and 33kW outputs are available. Baxi EcoBlue Advance Combi has 24kW, 28kW, 33kW and 40kW outputs, and offers up to 16.4l/min of hot water. The Baxi EcoBlue System is designed for installation with an unvented cylinder and is available in a range of outputs from 12kW to 32kW.

All boilers in the range come with a five-year warranty, apart from the Baxi EcoBlue Heat, which has a two-year warranty, subject to registration. They are available from all Heat Merchants branches.

Installers also benefit from access to Baxi Potterton Myson's dedicated training centre, the Works Online loyalty support scheme, and nationwide technical support and aftercare through Baxi Potterton Myson customer support and genuine parts.

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

De Dietrich excellence from Hevac



When first established in 1974, Hevac gained an immediate reputation for the diversity of its product portfolio, and especially for the quality of the products from the market-leading brands represented. Over the years this reputation has been further strengthened because of the continuous addition of new product lines and additional suppliers.

De Dietrich, the world-renowned manufacturer of pioneering heating technology solutions, is a typical example. A symbol of quality since 1778, De Dietrich is committed to the development of Sustainable Comfort®, the objective of which is to create innovative heating systems that consume less energy and preserve the environment.

As exclusive De Dietrich distributors in Ireland, Hevac has forged a very strong relationship with the company, thereby making a wealth of innovative product, and technology, available on the Irish market.

As part of that knowledge transfer process Hevac runs regular in-house training seminars for both installers and consultants, and also takes them to the De Dietrich Training School in Mertzwiller, France. The objective is to enhance their general boiler knowledge and skills but, more specifically, to improve their understanding of condensing systems, condensing applications, and water treatment for condensing boilers.

Among the latest De Dietrich models to be introduced are the ECO commercial gas condensing boiler range, and the Innovens Pro MCA wall-hung modulating condensing boilers.

The ECO range of gas condensing boilers has a silicium aluminium heat-exchanger and a modulating burner which maximises the energy-use for commercial installations. The total premix modulating burner guarantees:

- Optimal combustion quality across the entire output range thanks to a system of integrated mixing for a constant air/gas ratio;
- A boiler output range of 56 kW to 1303 kW which can be adapted to a wide variety of needs;
- Very low polluting emissions;
- Annual operating efficiency of up to 109% at 40/30°C.

Now with the Diematic iSystem controller added to the ECO range the system can be programmed to enable the management of external safety devices, modulating pumps, systems combined with solar energy and heat pumps, and the programmed control of heating circuits with mixing valves. It is also possible to connect and control up to ten boilers in cascade.

The Innovens Pro MCA is a high-technology wall-hung gas condensing boiler. Using the latent heat of the steam that is contained in its vapours, condensing provides additional heating while using less energy.

Additional features include the Diematic iSystem control panel that is capable of adjusting boiler functioning to the most precise needs, and a modulating gas burner that reinforces the benefits of the condensing effect while guaranteeing very low emission levels. It is also capable of providing large volumes of domestic hot water.

Key benefits are:

- Boiler output range of 8.9 kW to 114 kW which can be adapted to a wide variety of needs;
- Optimised for energy savings and ecology;
- A system that is complete, flexible and intelligent;
- Customised domestic hot water output at high levels of comfort;
- Maximum performance in minimum space;
- Complete hydraulic cascade systems available with full cascade control for connection of two to 10 boilers, over 1000 kW.

Contact: Paul Devereux, Hevac. Tel: 01 – 419 1919.

email: pauldevereux@hevac.ie;

or David Doherty, Hevac. Tel: 086 – 833 2141

email: daviddoherty@hevac.ie ■



POWRMATIC IRELAND STRATEGIC EXPANSION PROGRAMME

Powrmatic Ireland has embarked on a strategic expansion plan designed to consolidate its current market share, and to further develop its penetration into new market segments. As part of this process it has added the Ferroli range of commercial and industrial heating appliances to its portfolio, and appointed Brendan Reidy to the position of Area Sales Manager for the Munster Region.

A wholly-owned subsidiary of Powrmatic Ltd, Powrmatic Ireland is already a leading distributor of industrial and commercial heating equipment, air conditioning and flue systems for a wide variety of applications in Ireland. The team is led by Tony Delaney, Sales Manager while Joe Nolan and Sean Thompson are responsible for internal sales, stores and logistics.

Conveniently located in Dublin 24 with easy access to the M50 and all national primary routes, Powrmatic Ireland now offers Powrmatic's full range of warm air and radiant heating products, Midea air conditioning units, Ferroli industrial and commercial heating products, and a full complement of Powrmatic spares. It is also the official stockist for the SFL range of pre-fabricated chimney systems for domestic, commercial and industrial applications.

Powrmatic Ireland provides no-obligation advice on the selection and application of product, taking the same professional approach to each and every project, large or small, to provide a solution that matches customer requirements in terms of system performance, energy efficiency and cost.

A brief pen picture of the scope and extent of the Powrmatic Ireland portfolio is as follows:

Powrmatic

There are many different types of heating solutions in the Powrmatic range, with all manner of industrial and commercial heating requirements catered for. These include warm air products for factory heating; radiant heating for warehouses; hot water heating products; workshop, showroom and leisure centre heating, etc. Powrmatic also supplies a full range of controls.

Flue Chimney Systems

Powrmatic Ireland supplies flue systems for industrial and commercial applications, including an extensive choice from the SFL range. These include single wall flue systems; twin wall flues; chimney liners; and all related accessories.

Air Conditioning

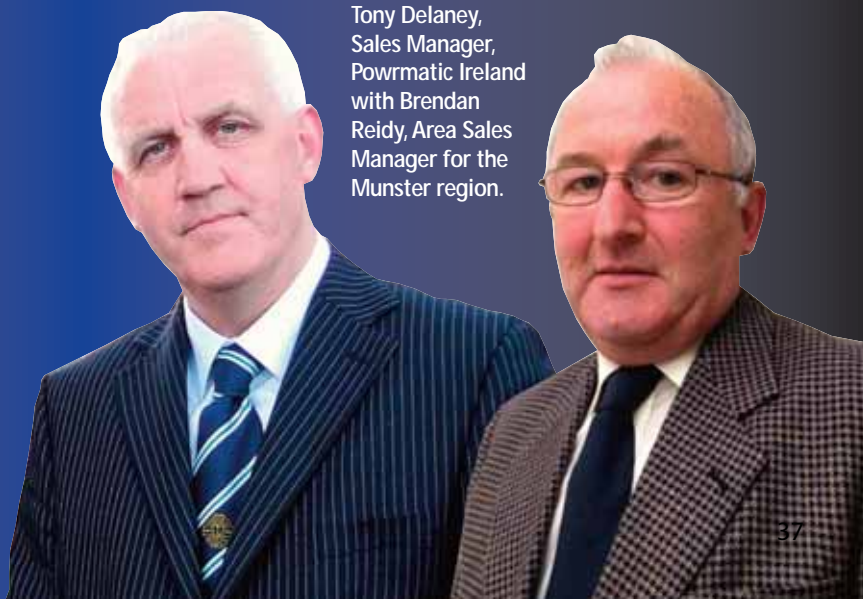
Powrmatic's range of air conditioning units are designed for the professional install sector. Working in partnership with Midea, the range of heat pump air conditioning units utilises the latest inverter technologies. The range includes Luna high wall mounted splits; super slim round flow cassettes; ceiling and floor split units; and compact round flow cassettes.

Ferroli

From simple heating systems to sophisticated plant installations, Ferroli's innovative designs, top build quality and superior materials guarantee powerful performance and excellent fuel efficiency. The range is vast and includes condensing units, packaged burners, dual fuel appliances, atmospheric models and low NOx units.

Contact: Tony Delaney, Powrmatic Ireland. Tel: 01 – 452 1533; email: tonydelaney@powrmatic.ie; www.powrmatic.ie ■

Tony Delaney,
Sales Manager,
Powrmatic Ireland
with Brendan
Reidy, Area Sales
Manager for the
Munster region.



Call for all healthcare engineers to join IHEEM



After a number of years of inactivity, the Republic of Ireland Branch of the Institute of Healthcare Engineering & Estate Management (IHEEM) has now been re-activated. The new Branch Committee has already met on a number of occasions and even gone so far as to confirm topics, and tentative dates, for the 2014/2015 seminar programme.

The IHEEM is an international professional engineering institute and a specialist body for the healthcare estates sector. Its primary purpose, as a professional development organisation, is to keep members up to date with developing technology and changing regulations.

Originally called the Institute of Hospital Engineering when founded in 1943, today IHEEM counts among its members employees of both public and private healthcare providers, as well as those employed in private sector engineering and

consultancy firms and practices. Increasingly members come from aligned industry sectors such as those with facilities management experience.

Various types of membership are available and applications can be made online or by downloading an application pack from www.iheem.org.uk/Ireland. The application process is straightforward and, for personal members, the grade of membership is based on qualifications and experience.

Corporate membership is also available, allowing companies and certain academic institutions working in the sector to avail of a range of membership benefits.

As a professional engineering Institute IHEEM has a licence from the Engineering Council to register practising engineer

Republic of Ireland Branch Officers

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Bill O'Reilly
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Secretary

Damien Clarke

Treasurer

James Reilly
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members at Engineering Technician, Incorporated Engineer and Chartered Engineer level. This also enables the use of designatory letters as globally recognised marks of excellence within the engineering sector.

Professional development

An important aspect of the work of the Institute is to provide opportunities for Continuing Professional Development. All IHEEM Ireland Branch events are CPD accredited and members should undertake these as a matter of course.

Among the topics on the forthcoming technical programme of events for 2014/15 are:

- Ventilation Standards in Healthcare (HTM 03-01);
- Control in Healthcare Facilities;
- Medical Gas Pipeline Systems – HTM 02-01 & ISEN Standards;
- IHEEM Exhibition and Seminar (one-day event);
- HTMs and HBNs Guidance and Best Practice Update;
- Decontamination Standards and Guidance;
- Electrical Safety and Services in Healthcare.

To ensure you receive IHEEM Republic of Ireland Branch updates register with Treasurer James Reilly at james.reilly@homanobrien.ie. ■



Pictured at a recent IHEEM meeting were Bill O'Reilly, Branch Chairman, Caroline Conneely, Committee member, Damien Clarke, Branch Secretary and James Reilly, Honorary Treasurer.

Toshiba new generation Daiseikai 8 range

The new generation Daiseikai 8 air conditioning systems range from Toshiba – previewed in the July/August edition of *Building Services News* – is now available from GT Phelan.



The advanced inverter-driven Toshiba Daiseikai 8 heat pump is designed to deliver market-leading efficiency and comfort and has one of the lowest noise levels for a commercial air conditioning indoor unit in its class.

In addition to a triple A+ energy rating (AAA+) for both cooling and heating, the new high wall Daiseikai units have a special quiet mode that enables them to operate down to 20dB(A), equivalent to the ticking of a wrist watch in an otherwise silent room.

The performance improvements have been made possible by the introduction of several new technologies that work in combination. A new type of vector-controlled power inverter converts electrical current into a smooth sine-curve, enabling more efficient operation of the DC motor driving the air conditioning compressor.

The twin-rotary compressor works in conjunction with a new design of four-way valve, while the re-designed heat exchanger optimises thermodynamic efficiency in both cooling and heating modes. The arc-shaped heat exchanger is twinned with a large helical-shaped fan to improve air circulation and reduce noise.

Toshiba Daiseikai's ability to match both cooling and heating

output to very low levels of load also helps boost energy performance. This means output can be precisely controlled to provide only as much cooling and heating as required, significantly reducing energy use at part- and low-load conditions.

A new remote control system gives end-users unprecedented control of comfort. Air flows can be controlled in three dimensional space with six pre-set patterns, giving varying horizontal and vertical flows. These include wide sweeps for overall cooling or heating, and focussed options for targeting hot or cool spots in a room.

Advanced disinfection of air passing through the unit is achieved with the use of a high-energy plasma generation system. Fine particulate filters are used as a second barrier to prevent the spread of airborne contaminants.

As a further hygiene measure, Daiseikai units are equipped with a self-cleaning function that removes moisture condensed on the evaporator coil after the unit has been switched off. In conventional systems, moisture is retained inside an air conditioning unit upon power off, encouraging the growth of bacteria and mould. The Daiseikai system automatically removes any moisture, leaving the unit completely dry when switched off.

For installers, mains power input levels can be customised on both indoor and outdoor Daiseikai units, giving great flexibility. Maximum pipe length at 25m for the SDSK8 unit, and maximum height difference for the same model is significantly higher than for equivalent competitor models, and enables use in a wider range of applications.

Derek Phelan, GT Phelan, says: "There is a big market for stylish, high-performance high-wall-mounted air conditioning that delivers unobtrusive comfort for people at work and at home. People want to be comfortable and productive without it costing the earth, and without being disturbed by irritating noise and vibration, or poorly-controlled air flows. Toshiba's new Daiseikai 8 delivers on all these fronts."

Contact: Derek Phelan, GT Phelan. Tel: 01 – 286 4377; email: info@gtphelan.ie ■



Hevac celebrates at Beech Park

Beech Park was the venue for the recent Hevac Group annual golf day, an occasion that had particular significance this year in that the company is celebrating its 40th anniversary.



There was a very large turnout – played in three-balls – with Hevac’s mixed customer base of wholesalers and installers rubbing shoulders with the company’s own staff and representatives from its many suppliers.

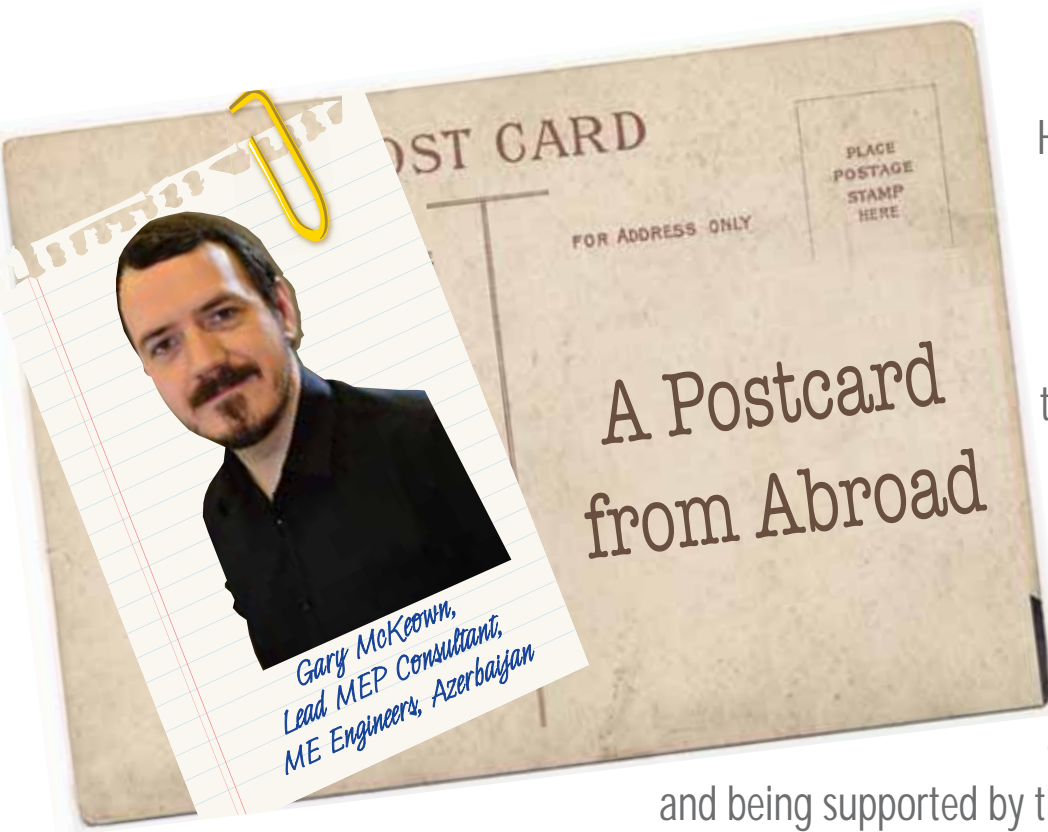
Apart from the overall winner’s prize – which went to Gay Brennan – there were lots of other prizes for nearest the pin, longest drive, etc. There was also the opportunity to win a Mercedes for a hole in one.

It was a beautiful day and the Beech Park course was in excellent playing order. Much of the golf was of the highest calibre but, for the most part, the day was one of celebration and fun.

This was particularly evident during the meal and presentation of prizes with Barry Murphy (Après Match) acting as MC. Armed with anecdotes about all and sundry, he slagged off virtually everyone in the room, but all in good taste.

It was a fitting occasion to mark this milestone anniversary. ■





Having worked for Varming Consulting Engineers in Dublin for over 10 years, the time was right for me to make a move to another company. I really enjoyed my time in Varming and it was hard to leave, having worked my way up from a junior to senior engineer, and being supported by them every step of the way.

Life in Azerbaijan

So, early in 2013 I moved to London to work for ME Engineers and began a new phase in my career that brought plenty of challenges.

I really liked the project portfolio that ME Engineers had. The company has a strong brand and its project profile included world-renowned

stadiums like the Aviva Stadium, Wimbledon All-England Tennis Club and Twickenham Stadium. The latter two I had the pleasure of working on myself. I particularly enjoyed my time working on the Twickenham Stadium project as I had the opportunity to combine my love of rugby with my job.

The opportunity to work in the home of rugby in its preparation for the 2015 Rugby World Cup was remarkable and I've learnt an awful lot about event overlays and stadiums through this project. Unfortunately, I also had the opportunity to experience Ireland lose to England in that very same stadium during the last Six Nations. Happily enough though we did win the Championship.

Having worked in London with ME Engineers for just over a year the opportunity arose to work with them further afield. My Managing Director, Darren Briant, offered me the chance



National Flag Square Azerbaijan, where the state flag is hoisted on a pole which is 162 meters high. The flag itself is 70 meters by 35 meters.



The Flame Towers which are the tallest skyscrapers in Baku. They also double as gigantic display screens and they are something to behold at night.

to work in Azerbaijan on the inaugural European Games, Baku 2015, which is being staged there by the European Olympic Committee. These Games will be staged every four years to fall between the World Olympic Games and will be held in various capitals throughout Europe

When I was asked if I was interested in moving to Azerbaijan I firstly said yes and then, like most people, followed that confirmation with a question ... where is Azerbaijan? As I soon discovered, Azerbaijan is located in the Caucasus and borders Iran, Armenia, Russia, Georgia and Turkey. The capital city where the games are being hosted, Baku, has a population of approximately two million people, an average temperature of 35°C during the summer, and is known as the "City of Winds". Azerbaijan itself is known as the "Land of Fire".

I began work here in May and my experiences so far have been quite interesting. My role is that of Lead MEP Consultant responsible for the MEP services on the International Broadcast Centre (IBC) and the Games overlay for the National Gymnastics Arena. This involves planning and designing alongside the architect and

the Baku European Games Operation Committee (BEGOC).

The IBC connects all 60 venues to the international press to beam the sporting events directly into peoples' living rooms all over the world. It is one of the most important sites within the Games package and it must not fail from a services perspective as it brings in the revenue for the Games through television rights.

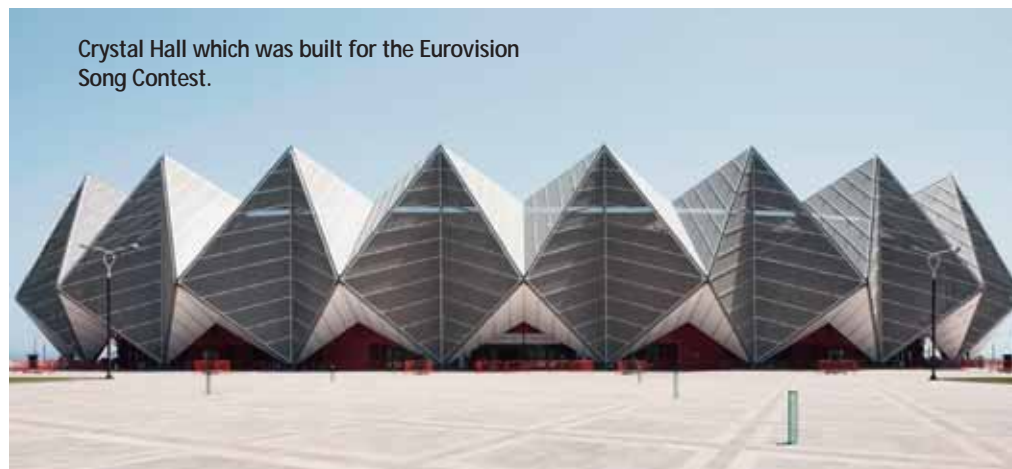
The construction processes here are not too dissimilar to Ireland and the UK, and the standards being used are British and European, so I'm finding it quite easy to settle in on site. There are, however, some differences including the language barrier with local workers and unfamiliarity with

the local materials used for building. For the most part though Turkish and European materials are used and many of them can be recognised straight away.

There are regular earthquakes in Baku which we must be mindful of in our design. Also, poisonous snakes and spiders are a constant hazard on site. A live snake was found in our office one particular day and I've been checking my site boots before I put them on ever since!

Baku is attracting more and more international events and straight after the European Games, in 2016, the first Baku Formula One (F1) takes place. All of this follows on from Azerbaijan winning one of its first major events in 2011, the Eurovision. At that point in time they had nowhere to host the contest so, within a construction period of seven months, a 25,000 seat stadium was built. It is named the Crystal Hall. This was an impressive achievement and involved building many other infrastructural elements around that competition also, including a 4.5km boulevard to the new arena.

There are plenty of ex-pats working in Azerbaijan. They are mainly in the oil industry and many of them work for BP. Most of the oil workers are located on the oil rigs in the Caspian Sea while others, like myself, are involved in the major construction



Crystal Hall which was built for the Eurovision Song Contest.

boom that has swept Baku. The amount of work that has been created in this oil-rich peninsula is mind-boggling and a lot of it has to be finished for the European Games next year.

The country itself is in the process of being recognised on the world stage and this is the reason revenue from oil is funding many of the projects currently underway. They are doing a great job and any locals I've talked to are proud that their country is hosting these world-class events.



Baku is attracting more and more international events and straight after the European Games, in 2016, the first Baku Formula One (F1) takes place.

There is plenty to do in the city. Baku has been hit with the globalisation stick and I find myself walking into shopping centres with well-known retail brands like Debenhams, Next, Massimo Dutti and even WH Smith. The Azerbaijani people are a very friendly bunch and they are very respectful towards each other, and ex-pats alike.

In the evenings I usually go running along the 10km or so boulevard that stretches along the Caspian Sea. The temperature can be up as high as 28°C, even at that time of day, so it makes for a very tough run!

When socialising in Baku there are a lot of options, including Irish bars with Finnegan's being the most popular. Most pubs have great live music in the evenings and at the weekends. There are also great restaurants in Baku and most, if not all, are very reasonably priced. I enjoy trying the local Azerbaijani food and other types of food which can be hard to find back home, such as Iranian and Turkish dishes.

I still consider myself new to this city and I am looking forward to the next year working here, exploring the country of Azerbaijan, and helping to make the inaugural 2015 European Games a success. ■



AIR CONDITIONING LTD

Core Air Conditioning Ltd is the sole distributor for Carrier and Emerson Network Power commercial, industrial and computer room air conditioning products. We also supply Mitsubishi Electric, Lu-ve Contardo and Jacir Air Treatment equipment, and offer a full package of air conditioning and process-related products. Due to continued expansion, we now seek two additional team members.

SERVICE SALES ENGINEER

Reporting to the Sales Manager, the main function of this role will be to maintain and build on Core's existing client base with a view to increasing our HVAC maintenance contracts and service sales to facility management companies. The successful candidate will also be required to deal with existing clients to renew and increase contract work on site. Experience in a similar service sales role would be preferable. Full clean driver's license is essential.

Attractive package – to include basic and commission – available to the right candidate.

JUNIOR PROJECT ENGINEER

This position is office-based in Clondalkin and involves assisting the sales team with the preparation of project proposals and follow-up work for Core's range of HVAC and acoustic equipment (chillers, AHU's, cooling towers, close control units).

Would suit a recently-qualified building services engineer.

Negotiable basic salary.

For either position please forward CV to steve@coreac.com

DWG Refrigeration Wholesale opens new Cork branch

Following the merger of Dean & Wood Ireland and Gasco in 2012 to form DWG Refrigeration Wholesale Ltd, the new venture has just opened a new Cork Branch to cater for its growing customer base.

As specialists in the refrigeration, air conditioning and ancillary products sectors DWG has access to a vast portfolio of refrigeration systems, components, air conditioning products and heat pumps from worldwide, market-leading suppliers, thanks to the support of Beijer Ref Group, its Swedish parent company. DWG has very strong trading relationships with these companies, some of whom participate in the annual DWG Roadshow, which this year takes place in the Silver Springs Hotel, Cork (1 October) and the Louis Fitzgerald Hotel, Dublin (2 October).



Left to right: Denis Morrissey, Seagull Refrigeration with Stephen McGrath, DWG Business Manager, Cork Branch and Bev Lowes, Silver Refrigeration.

As with the Dublin Branch, all of these brands are now available ex-stock from the specially fitted-out Cork Branch. It houses offices, warehouse and a trade counter, and is ideally located on the Tramore Road, with easy access to all corners of the city. The telephone number is: 021 – 484 7552

In addition to the trade counter, there is a same-day delivery service where required, while an after-hours service is also provided, especially in the case of emergencies.

Stephen McGrath, DWG Business Manager, Cork Branch, heads up the team, with the support of Liam Goggin, Stores Manager and Craig Walsh who is responsible

“ DWG has access to a vast portfolio of refrigeration systems, components, air conditioning products and heat pumps from worldwide, market-leading brands ”



Sean Hurley, Cross Refrigeration with Dan Rushton, Bigfoot Systems.



Denis Moynihan and Colin Moynihan, both of Airflow Services.



Pat Guilfoyle, Sirius with Mark Kiely, DWG Director.



Left to right: Shane Fitzgerald and Trevor Fitzgerald, both of Munster Refrigeration with Bryan Long, Astech

for transport and logistics. As Corkonians they are well-known in the region and, not surprisingly, this resulted in a very well attended official opening event.

The occasion was in keeping with the warm and friendly DWG style and was very much a local event with existing and potential customers mingling with local suppliers to the company. Some of the local businesses and trades people involved in the refurbishment of the premises were also in attendance, along with a number of DWG's principal supply partners.

The opening took on something of a day-long festive occasion, commencing with breakfast rolls, followed by a BBQ from lunch time onwards.

Ex-stock availability

The relaxed DWG philosophy is underpinned by a steely professionalism aimed at delivering a top-quality service. Its ex-stock portfolio is very comprehensive and comprises an expansive package of refrigeration and air conditioning capital equipment, along with a range of mechanical, electrical and electronic controls, ancillaries and installation tools.

Reflecting the synergies across Beijer Ref, it includes a wealth of market leading brands, which have been selected for their product quality, reliability and environmental innovation. These partnerships are valued by DWG and they provide a solid business base

from which they can offer a high quality service to their customers.

Key market segments served include:

- Comfort cooling (air conditioning products delivering both heating and cooling for commercial and domestic use);
- Commercial refrigeration (for supermarkets, restaurants, food retail outlets and similar applications);

- Industrial refrigeration (for a variety of applications as diverse as large refrigerated distribution centres and ice rinks).

Support from a dedicated team

DWG's Cork team are experienced, knowledgeable and totally committed to delivering customer support in pre- and after-sales, from system design through to product selection and even on-site trouble shooting.

Their mission is to provide the best-value refrigeration and air conditioning wholesale experience to customers in Cork and the Munster region.

Their reputation bears testimony to the on-going success of the DWG customer-focussed philosophy, and they look forward to serving you soon at the Cork Branch. ■



Left to right: Craig Walsh, Teresa Purcell, Liam Goggin, Matt Bailie, Jackie Lovett and Tim McGee, all of DWG.

CIBSE GOLF

CIBSE Scramble at Castleknock GC

As always the CIBSE Annual Golf Outing proved a major success with 56 golfers, going out in four-ball teams, competing for the PJ Doyle Trophy. Format was scramble. Castleknock Golf Club was once again the venue and the beautiful weather, coupled with the excellent condition of the course, made for a most enjoyable day.

Serious golfers lined up with occasional golfers in competing teams and, while all were intent on winning, the emphasis was on fun and networking. That said, most golfers had their minds firmly set on winning the new Ford Kuga car on the 18th hole. This was sponsored by Unitherm Heating Systems.

Other sponsors were Wilo Engineering, tee-box and goody bags; Daikin, golf balls; and Kedington Group, nearest the pin prize.

Kingspan, Heatmerchants, Hevac, Mercury Engineering, Flogas, Dowd Energy, Firebird all sponsored tee-boxes.



PJ Doyle Trophy Winners – Team Mr Vent, made up of Richard Gladney, Brian Curtin, Dillon Brophy and Alan Geraghty, with Sean Dowd, CIBSE Ireland Chairman (centre).

Results

Winners: Team Mr Vent – Richard Gladney, Brian Curtin, Dillon Brophy and Alan Geraghty.

Second: Team Jones Engineering – Fergus Weldrick, Alan Lynch, Noel Kelly and Darren Murphy.

Third: Team Ideal Standard – Martin O'Reilly, Terry Fitzgerald, Trevor Callaghan and John Murphy.

Nearest the pin:

Brian Curtin

Longest drive:

Alan Geraghty

Inside-the-Pro:

There were seven people who won a prize for Inside-the-Pro on the 18th hole.



The one that got away! CIBSE Ireland Vice-Chairman David Doherty with Declan Kissane, CIBSE Committee and Unitherm, sponsor of the hole-in-one car competition, and Sean Dowd, CIBSE Ireland Chairman.



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