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VRF (variable refrigerant flow) systems are normally powered by electric driven compressors with an INVERTER for variable speed control.

The GHP is a VRF system, which has the compressor powered by an engine using natural gas as the input fuel.

This means that large cooling/heating systems can be installed in buildings which have a limited electricity supply. The GHP requires some electrical power for the fans and controls, but this is minimal compared to the power requirements of a conventional VRF, Chiller, or other type of system.

In winter, the heating performance is maintained in very cold ambient conditions, because the waste heat from the engine is utilised as a secondary heat source to enhance the output of the heat pump.
Energy Show & Workshops — Don't Miss This Opportunity

Sustainable Energy Ireland (SEI) has confirmed details of the workshop programme which forms part of the Energy Show 2004. Approximately 90 exhibitors will participate in the Show, which takes place in the RDS Industries Hall on the 12th and 13th May next.

The event is organised by SEI and is now firmly established as a major national showcase for energy in Ireland. It is the ideal forum for suppliers and customers of sustainable energy technologies and services to meet, share views and transact business.

Among the Workshops confirmed to take place are sessions on energy efficient buildings and solar energy — both of particular relevance to the Irish construction industry. The Solar Energy Workshop will include a case study entitled “Sustainable Buildings of the Future”, examining the Aras an Chontae building in Tullamore, Co Offaly, winner of the RIAI Most Sustainable Building Award 2003.

According to David Taylor, CEO of SEI: “The Energy Show is a must for anyone with responsibility for, or an interest in, energy and energy-related matters, both in the large industry and SME sectors.

“We are very much looking forward to welcoming participants and exhibitors from all sectors of the energy market and beyond to the RDS in May. I would encourage any individual or company with an interest in the area to attend and participate in the numerous workshops planned over the two days.”

For further information on The Energy Show 2004 log on to www.sei.ie/energyshow or email: energyshow@sei.ie
Grundfos Strengthens Wastewater Team

Wastewater is a strategic focus area for the Grundfos Group and even more so for Grundfos Ireland where Managing Director Gordon Barry sees considerable potential during the current phase of Ireland’s National Development Plan.

“Within commercial building services, which is our biggest market”, says Gordon, “there is already great synergy between our traditional HVAC products and wastewater products. We have considerably strengthened both areas in recent years and Grundfos is now, without doubt, a complete ‘full line’ supplier when it comes to pumps and pumping equipment.

“To further capitalise on these strengths we made two further appointments to the wastewater team on 1 March last. Richard Burke has been promoted from general Technical Sales to the position of Sales Engineer, joining James Whelan in the field to provide even greater coverage.

“The field sales team will be supported by Glenn Carney who has just taken up his position following four weeks of intensive training in the UK Grundfos office. Meanwhile Mark O’Sullivan, who also completed the training course in the UK, takes up the role previously carried out by Richard Burke.”

Johnson Controls Wins IBM Project

Johnson Controls has won the facilities management (FM) contract for IBM’s 100-acre Mulhuddart Technology Campus, located on the outskirts of Dublin. The win is a significant achievement for Johnson Controls as this contract is the largest FM opportunity in the country.

Ed Flanagan, IBM Real Estate and Site Operations Country Manager Ireland said: “Johnson Controls has proved that it has the right approach to FM. It has demonstrated a high degree of commitment to the quality of service it offers IBM and has worked with us to develop an integrated package of FM which will be the right solution for our individual site.”

The new contract will provide FM services at IBM’s 800,000 sq ft facility at the Technology Campus, which houses IBM Systems Group, Microelectronics and Global Services. The contract, which runs for several years, covers an extensive range of services including M&E, cleaning, security, landscaping, project management and maintenance for IBM’s manufacturing facility.

Guy Holden, Johnson Controls Vice President for the UK and Ireland, said: “The Mulhuddart contract demonstrates how our business continues to grow and emerge into new markets. The new contract is a key step from which we aim to continue expanding our business in Ireland. It supports our strategy to invest in our Irish infrastructure and provide an extensive range of building solutions in this dynamic market.”

Contact: Gordon Barry, Grundfos Ireland.
Tel: 01 - 295 4926;
email: gbarry@grundfos.com

Contact: Ed Flanagan, IBM Real Estate and Site Operations Country Manager Ireland.
Tel: 01 - 295 4926;
email: gbarry@grundfos.com

Mark O’Sullivan, Technical Sales

These appointments at Grundfos were made to strengthen the wastewater team in anticipation of the complete new range of revolutionary wastewater pumps and controls which will be introduced by the company to the marketplace later this year.

Contact: Gordon Barry, Grundfos Ireland.
Tel: 01 - 295 4926;
email: gbarry@grundfos.com

IBM’s Mulhuddart Technology Campus

https://arrow.tudublin.ie/bsn/vol43/iss4/1
The New R410a Small Solution

The new small solution from Sanyo — all the quality, flexibility and power you expect from Sanyo technology in a compact and affordable package. The new SAP wall mounted R410a unit is the ideal solution for domestic and small commercial air conditioning applications.

Whether you prefer the latest in DC inverter technology with COPs of 3.6 or the non-inverter alternative with an even greater price benefit, Sanyo offers you real choice at a really exceptional price.

- 2 Inverter heat pump models — 2.65kW and 3.5kW capacities
- 6 Non-inverter models — cooling only 2.4kW, 2.65kW, 3.72kW and heat pump 2.40kW, 2.78kW, 3.55kW capacities.
- Attractive modern appearance
- High power and Quiet mode
- Sleek multi functional Infrared Remote controller with Built-in sensor

With Sanyo continuing to offer a full range of R407c systems, 2004 continues to be the year of choice.

Sanyo Air Conditioners
41 Western Parkway Business Ctr, Ballymount Road, Dublin 12. T: 01 456 8910 F: 01 450 7227
www.sanyoaircon.com
Towards a Lower Carbon Economy

Recent figures from Sustainable Energy Ireland suggest that 850 grams of CO₂ are emitted for every kW of power produced. CO₂ is produced as a direct result of the burning of fossil fuels which are used to power the generators producing electricity. Of the six greenhouse gases identified, CO₂ represents 80% of the total.

"It is therefore vital that we reduce our consumption of electricity in order to have a direct effect on the amount of CO₂ produced into the atmosphere", says Derek Phelan of GT Phelan.

Toshiba, who has been to the forefront of electronic advances over the years, has introduced a range of energy-efficient air conditioning solutions which offer decreased energy consumption, quicker warm-up and cool-down times, and more efficient temperature control within the conditioned space. The new Digital Inverter and Super Digital Inverters actually help to reduce power consumption by up to 50% over standard air conditioning systems, thereby dramatically reducing the amount of harmful CO₂ released into the atmosphere.

The high energy efficiency of the units, combined with the latest environment-friendly refrigerant, offer unrivalled opportunities to the cost-conscious and environmentally aware client. With the introduction of a carbon tax proposed in the next budget, it makes sense to choose energy efficient air conditioning.

The full Toshiba range will be on show at the GT Phelan stand at The Energy Show 2004 — 12/13 May at the RDS Simmonscourt.

Contact: Derek Phelan or Ken Lawlor, GT Phelan.
Tel: 01 - 286 4377; email: gtphelan@eircom.net; www.gtphelan.ie

EG Pettit Golden Jubilee

Pat Cox, European Parliament President with Gerald O’Sullivan, Managing Director, EG Pettit & Company, pictured at the company’s reception marking 50 years service to the building services industry, both in Ireland and abroad.

Oventrop Appoint Ireland Sales Manager

Oventrop, one of Europe’s leading manufacturer of valves and controls for heating and air conditioning systems, has extended its activities in Ireland by appointing Donny Bourke as Area Sales Manager for Ireland.

Based in Edenderry, Co Offaly, Donny has wide experience in the industry, having worked for two of Ireland’s leading suppliers in the sector.

"Innovation and quality is the company motto", says Donny. "This applies not only to the continuing development of the product range, which is designed and manufactured to an ISO 9001 Quality System, but also to the technical support offered to our customers. One important service we offer is assistance with project design and sizing of all products via computer-aided design packages."

Contact: Donny Bourke, Oventrop.
Tel: 087 239 7078; email: donnybourke@oventrop.ie; www.oventrop.ie

Ken Lawlor has been appointed sales executive with GT Phelan Ltd to meet the growing demand for, and interest in, Toshiba air conditioning products and systems. He will strengthen still further the quality of the service provided by GT Phelan, with particular emphasis on meeting the requirements of consulting engineers and other specifiers.

Contact: Ken Lawlor, GT Phelan.
Tel: 01 - 286 4377; email: gtphelan@eircom.net

Lawlor Joins GT Phelan

Donny Bourke, Oventrop Area Sales Manager for Ireland with Stephen Walton, Managing Director, Oventrop UK

https://arrow.tudublin.ie/bsn/vol43/iss4/1
The Totally Flexible Air Handling Unit

Introducing the new DV Air Handling Unit from Systemair, which is based on a number of standard components that can be combined into more than 10,000 air handling unit configurations. This revolutionary design has the smallest physical dimensions of any air handling unit in its class. This DV unit can also be supplied with a complete factory fitted control system — the Systematic.

All of Systemair's air handling units are designed and tested in accordance with EN 1886:1988, Ventilation for Building — Air Handling Units — Mechanical Performance.
Lennox Expands Airside Range

Lennox has extended its range of Airside products with the acquisition of European distribution rights to the "AIRCHAL" air handling unit product range manufactured in Northern France.

The "CC" range of units is particularly designed for industrial clean room applications or hygienic environments and has been widely used on large prestigious projects throughout the UK and Ireland.

Construction is typically 50mm, 75mm or 100mm, depending on thermal and acoustic requirements, with an option for cold-bridge free on all panel thicknesses. The rigid construction permits extremely high operating static pressures. These units are certified by Eurovent under the Air Handling Unit Certification programme.

At the other end of the scale Lennox is enjoying considerable success with its Diplomat range of "mini-AHUs" manufactured at its manufacturing facility in Prague, Czech Republic. Diplomat units are available in two sizes — KLMD 2 (500-2100m³/hr) and KLMD 5 (up to 4800m³/hr). Construction is double-skinned insulated with 25mm mineral wool offering good thermal and acoustic properties.

A wide range of modular component sections are available from stock to facilitate numerous configurations on short lead times and at low cost. Most Diplomat units can be selected in "monoblock" form for simple transport and site installation, or as individual component sections. Components available from stock include — DX or water coils; electric heaters; plate heat exchangers; panel and bag filters; silencers; dampers; and of course fans in either backward or forward curved construction. Compact dimensions allow the option, in most cases, of locating the unit within the false ceiling or other confined locations. A unique feature means that the unit can be ordered suitable for floor mounted on integral feet, or by inverting the frame, made suitable for ceiling suspended on drop rods. Standard finish is pre-painted white (RAL9002), making the Diplomat ideal for commercial or light industrial applications where multiple high level exposed units are required in the conditioned space.

Contact: Pat Byrne, Lennox Ireland.
Tel: 01-429 9703; email: pat.byrne@lennoxind.com

European Award for SEI

Sustainable Energy Ireland's Renewable Energy Information Office (REIO) has received a major European award — the European Commission's Campaign for Take-Off Award — for its work in promoting the uptake of renewable energy in Ireland.

REIO operates a structured information and advice programme targeted at key stakeholders including planners, resource owners, developers and the general public. It also delivers a comprehensive national event programme to facilitate closer engagement and improved appreciation of the issues in renewable energy deployment across the key stakeholder groupings.

SEI's Renewable Energy Information Office received the highly-coveted Renewable Energy Partnership' Award at a special ceremony in Berlin.

Contact: REIO information hotline. Tel: 023 - 42193; website: www.sei.ie.

IDHE Golf & AGM

The IDHE Annual Golf Outing will take place at Corrstown Golf Club, Kilsallaghan, Co Dublin, on Tuesday, 18 May next. Cost is €85 per person, to include golf and meal, or €40 for meal only.

In addition, the annual general meeting of the Institute will take place in Morans Red Cow Hotel, Naas Road, Dublin on Tuesday, 25 May next. A good turnout is imperative if constructive policies are to be devised.

Contact: Joe Newman, IDHE. Tel: 087 245 7729.
Unico System — The Alternative

The Unico System uses almost any manufacturer’s outdoor condensing unit or heat pump in conjunction with a specially-designed indoor evaporator fan/coil unit which distributes air through a high static pressure system of small ducts and plenums.

The “M Series” Unico fan/coil unit is for cooling and/or heating applications, and is available in three sizes — 1218, 2436, or 4260 — which cover cooling capacities from two through five nominal tons, and heating capacities from 3.5kW to 27kW. The 2436 and 4260 units are modular to accommodate the widest range of options and configurations.

Particular benefits include even room temperatures; little or no drafts; freedom of design; better aesthetics; quiet operation; and improved air filtration.

Contact: Eamon Fidgeon, Unico System Ireland. Tel: 044 84881; email: info@unicosystemireland.com

Honeywell Website Change

Honeywell’s Home Comfort Controls website for the UK and Ireland has a new address: www.honeywelluk.com. It includes a wealth of product details, energy-saving tips and technical information — an invaluable resource for everyone concerned with installing, specifying and servicing heating and hot water systems in homes and light commercial buildings.

The site includes the latest advice on the heating controls requirements of the latest Building Regulations, Part L1 for England & Wales and Part J for Scotland.

Honeywell is the leading supplier of domestic controls, for time and temperature, and gas and water. With Smartfit and wireless options, the range combines ease and speed of installation with the best in comfort, energy-efficiency and sophistication.

Honeywell water controls include valves for backflow prevention, pressure and thermostatic control.

Free literature hotline. Tel: 0044 800 521121; email: literature@honeywell.com

Installers’ Technical Support Line (during office hours). Tel: 0044 0457 678999.

12th – 13th May 2004 RDS, Ballsbridge, Dublin 4

towards a lower carbon economy

the energy show is a must for anyone with an interest in or responsibility for energy usage in business.

the two day exhibition presents a vast array of innovative products and services.

the eight workshops will cover renewable and efficient energy technologies, their benefits and best practice approach to their implementation.

attendance at the show is essential for suppliers and customers of sustainable energy technologies to meet, transact business and make a low carbon economy part of business as usual.

For more information log onto www.sei.ie/energyshow
**BTU Forthcoming Outings**

Details of the BTU outings for the forthcoming season are as follows:—
(a) Thursday, 6 May at Powerscourt. Sponsor: Fläkt Woods (Irl.);
(b) Thursday, 10 June at Royal Dublin. Sponsor: Danfoss Irl;
(c) Thursday & Friday, 24/25 June at Canterbury;
(d) Thursday, 8 July at Malahide (Captain’s).
  Sponsor: Dublin Providers;
(e) Weekend of 27/29 August at Nuremore.
  Sponsor: Calpeda Pumps;
(f) Thursday, 17 September at Newlands (President’s).
  Sponsor: Valve Control Systems;
(g) Friday, 22 October at Woodbrook.
  Sponsor: Liberty Air Technology;
(h) Friday, 3 December at Hermitage.
  Sponsor: Killarney Plastics.

Grundfos Ireland Ltd will sponsor Player of the Year with the Matchplay being sponsored by Eurofluid Handling Systems.

The annual match against the RACGS will be sponsored by BOC and played at Co Louth on Thursday, 16 September.

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**Honeywell Goes Online!**

Honeywell has published its complete detailed catalogue of over 5000 home and building control products online. Product categories include controllers and field devices, gas and water valves, actuators and filters, sensors and thermostats, burner and boiler controls, inverters and indoor air cleaners.

Users will recognise many familiar, trusted friends from Honeywell’s vast range and are bound to discover many energy and time-saving products and accessories they hadn’t associated with Honeywell.

Navigation is simple using a tree structure. Product descriptions and details are displayed on the screen, while full technical specifications can be downloaded as PDF files.

Contact: http://ukhbc-catalogue-at.europe.honeywell.com

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**Refrigeration Technology Skillnet Training Programme**

**MAY — JUNE 2004**

**FRIDAY 7 MAY**

Manual Handling

**WEDNESDAY 12 TO FRIDAY 14 MAY**

Health & Safety Officer Training

**THURSDAY 20 & FRIDAY 21 MAY**

Selling Skills

**MONDAY 31 MAY & TUESDAY 1 JUNE**

Ammonia Handling

**MONDAY 7 JUNE & TUESDAY 8 JUNE**

Brazer Approval (Cork)

**Contact:** Enda Hogan, Refrigeration Technology Skillnet.
Tel: 01 - 878 3773 email: enda.hogan@dit.ie

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**RSL ‘Super-quiet’ Condensing**

The demand for low-noise equipment is rapidly growing, especially in city and town sites. The air-conditioning sector has already responded to this requirement and now the refrigeration industry must follow. Hence the new range of super-quiet RSL refrigeration condensing units. These units are suitable for outdoor use, having a similar profile to the air-conditioning split condensing units. They are fully configured and come with the following:—
- Fan speed controller;
- Liquid receiver;
- Relief valve;
- Drier & sight glass;
- Pressure switches;
- Motor contractor;
- External isolator;
- External liquid and suction valves;
- PED & CE.

Contact: Gerry McDonagh, RSL Ireland.
Tel: 01 - 450 8011; email: gerry@rslireland.com

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**Clarke Joins RSL**

Dave Clarke has joined the Dublin office of RSL. Well known in the air-conditioning industry, Dave has a strong knowledge of refrigeration and will bring additional expertise to the RSL team where the quality of the technical support provided is as important as the quality of the products supplied.

Contact: Dave Clarke, RSL Ireland.
Tel: 01 - 450 8011; email: dave@rslireland.com
Tank Cleanliness & Fuel Quality

Eurotank has introduced a fibre-optic camera and tank-cleaning system which it claims guarantees tank cleanliness and fuel quality.

Suitable for Zone 0 environments, Eurotank believes this to be the only system available that offers any guarantee without putting men into tanks.

From full digital recording to snapshot images, Eurotank takes the guesswork out of fuel quality management.

Contact: Edward Wheeler, Eurotank.
Tel: 0044 23 80 710197; email: edward.wheeler@eurotank.eu.com

Horstmann For Taney

Taney Distributors has been appointed authorised distributor for Horstmann Controls. Horstmann is a world-recognised premium brand which will complement Vaillant Boilers, part of Taney's existing portfolio.

Always to the forefront with innovative developments, Horstmann has a continuous stream of new products coming to the marketplace. Taney will distribute and promote the entire Horstmann range via merchants and installers nationwide.

Contact: Neil Gaffney, Taney Distributors.
Tel: 01 - 450 8120; email: taneydist@eircom.net

Expansion at PH McCarthy

Consulting engineers PH McCarthy has appointed two new directors and two new associates.

Matt Cunningham, who has headed up the firm's Roads Design team, becomes a director while David Dinn has been appointed Finance Director.

Chris Beier, a mechanical engineer, is now an associate. He will head up the Building Services Unit at PH McCarthy's Dublin and Limerick offices, while Eddie O'Donovan, a structural engineer, is the other associate appointed.

New associates Chris Beier (left) and Eddie O'Donovan (right) with Michael Hind, PH McCarthy Managing Director
**ELECTRICAL SERVICES ENGINEERING**
Consulting engineering firms and contractors seeking to employ successful electrical services engineering graduates should contact Kevin Kelly of DIT Kevin Street re the 24 Diploma students who will graduate from the full-time DT244 course this coming June.

Many of those on the K249 part-time equivalent electrical services engineering course — most of whom are qualified electricians — are also looking for employment. They will graduate in May 2005.

Contact: Kevin Kelly, Faculty of Engineering, Department of Electrical Services Engineering, Kevin St, DIT. Tel: 01 - 402 4771; email: kevin.kelly@dit.ie

**REFRIGERATION ENGINEER**
Cork-based company Astech Air Conditioning Ltd requires an experienced refrigeration engineer to join a progressive company offering unrivalled maintenance and service of all air conditioning equipment throughout Munster. Top rates paid including pension, company vehicle, etc. If you are highly-motivated and capable of working on your own initiative to the highest standards, please email your CV to email: astech@isite.ie.

Contact: John O'Reilly, Astech. Tel: 01 - 021 431 8848; Mobile: 087 266 2868.

**RADIATOR SALES AGENT**
Autron Products Ltd — one of the UK’s leading manufacturers of LST radiators — seeks a sales agent. Range includes domestic and light commercial systems. Plan is to expand sales into Ireland by targeting distributors, smaller contractors, consulting engineers, etc.

Contact: Trevor Burr/Richard Jacobs.
Tel: 0044 1787 473964 or email: sales@autron.co.uk

**HVAC ENGINEER**
Thompsons Air Systems Ltd, a Mallow, Cork based HVAC contracting company require a qualified mechanical engineer to fill the position of HVAC Engineer.

The successful candidate will have at least 5 years experience in the HVAC sector. He/she will have experience of design, construction, installation and managing projects. The position will suit an energetic, ambitious candidate willing to take initiative and manage projects from enquiry to completion.

Contact: Joe Mulligan, Thompsons Air Systems. Tel: 022 - 21521 or email sales@thompsons-air.ie.

**BUILDING SERVICES ENGINEERS**
Consulting engineers, contracting companies, suppliers and building managers seeking to employ building services graduates should contact DIT Bolton St. Graduates from the whole-time Honours Degree Programme in Building Services Engineering and the whole-time Diploma/Certificate Technician Programme in Building Services Engineering will be available to take up employment in June 2004.

Contact: Don Byrne, Head, Department of Building Services Engineering, DIT Bolton St. Tel: 01 - 402 3636; email: don.byrne@dit.ie

**AC SALES ENGINEER**
Due to the continued expansion of YORK ACR in the HVAC industry we are currently recruiting a self-motivated sales engineer to work from our Cork office.

The ideal candidate should have experience in the industry. The role will involve calling on our existing customer base, and expanding this base within the region.

The successful candidate will receive attractive salary and commission; company car; and excellent pension scheme.

CVs to Sales Manager, York Acr, Unit 19 University Hall Industrial Estate, Sarsfield Road, Wilton, Cork. They can also be sent via email to:— dave.dorney@ie.york.com

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Employers, if you have a position to fill please email brief details to louise@pressline.ie for inclusion free of charge in BSNews Jobs Corner.
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Call Joe
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email: joe@pressline.ie
Sanyo Show Some Energy

Sanyo Air Conditioners has a stand at next month's Energy Show in the RDS (12-13 May). National Sales Manager, Barry Hennessy explains why the show will be important to him.

"Energy efficiency is at the heart of our product development and, as a result, Sanyo’s products raise the bar when it comes to environmental performance. We’ll certainly have plenty to talk about at the show, including many new products that we are launching to the Irish market."

Certain to attract a great deal of attention is the Sanyo GHP, an innovation that could considerably open up the Irish air conditioning market.

Around 40% of commercial property has no three-phase electricity supply and the cost of installing it is prohibitive. In these buildings installing air conditioning has been impossible until now. Sanyo’s “problem-solver” is unique in requiring only single-phase electricity. It is also the only GHP that can use LPG so it is even suitable for the 10% of business properties that lack mains gas connection.

Sanyo pioneered GHP technology in the 1980’s as part of Japanese government’s Gas Cooling Technology Project which was a response to the oil crisis in the late 1970s. Today, 46% of Japan’s VRF heat pump market is gas powered. Significant market penetration has been achieved since the launch of the latest GHP system less than a year ago. The technology has been well received, particularly by government departments, due to its great “green credentials”.

Apart from a detailed insight into GHP, visitors to The Energy Show (Stand B1/C1) will also be able to find out about Sanyo’s other new products, including the revolutionary ECOi. This uses a DC inverter and R410a refrigerant to achieve what Sanyo claims are the highest COP and the lowest sound levels in the industry.

Even the new portable unit is said to offer incredible energy efficiency with a COP rating of 3.0. Also being highlighted will be the inverter-driven R410a split systems and many control options available to compliment the range. “We have named 2004 the ‘Year of Choice’ at Sanyo because we are dedicated to bringing real choice to our industry.” explains Barry. “Our product range is arguably the widest on the market but we also offer a choice of power supply, refrigerants and even inverter or non-inverter technology.”

Contact: Barry Hennessy, Sanyo Air Conditioners.
Tel: 01 - 456 8910; email: b.hennessy@sanyo.ie; www.sanyoaircon.com

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BTU Braves Portmarnock Winds

The first BTU outing of the 2004 season was held on a very windy Portmarnock Links on 14 April.

It was run as a 4 x ball competition with some good scoring considering the conditions on the day.

The outing was sponsored by Ideal Standard, Armitage Shanks who were represented by Jim Ennis and Bobby Byrne.

As the participants have come to expect, the array of prizes was magnificent and is a credit to all at American Standard Plumbing (Ireland), distributors for Armitage Shanks and Ideal Standard.

Unfortunately, the photographs of prize giving were not available as we went to press but the results are as follows:

**Overall Winners**
Terry Maher
Jimmy McKensie

**Second**
Brendan Sheehan
Neil Ryan

**Third**
Gerry Hutchison
Gerry Tobin

**Fourth**
Michael Kearney
Jim Smith

**Visitors**
First
Sean Brady
John Finan
Second
John Dignam
Tom McNally

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Keep ahead with Honeywell.

It's reassuring to know you can keep ahead of the game with Honeywell. We have been making energy saving controls for over 100 years. So people trust us to provide quality, reliability and good value.

Our top quality range of thermostatic valves includes the smart chrome-top VT200, as well as the VT15 and VT117. All offer energy savings and reversible flow bodies to give unrivalled performance, individual room temperature control and stylish appearance.

Make the smart move - use Honeywell
New DV Air Handling Unit From Systemair

Systemair has just introduced its latest AHU design, the DV, thereby extending the capacity outputs of its overall portfolio from 0.3m³/s up to 50.00m³/s. With plenty of AHUs already available on the Irish market, what has the new DV unit got to offer? Systemair’s Mark Russell says the new DV range incorporates many innovative features which deliver quite a number of benefits hitherto unavailable.

“To begin with”, says Mark, “there is the short footprint. The length of the DV unit is approximately 17% shorter than its predecessor. The units have also been designed to be wider rather than higher, which is an advantage with projects where there are height restrictions.

“Additionally, DV units can be supplied in a number of smaller sections for projects where access is an issue. The sections can then be assembled quickly and easily using the unique disc-lock system, saving the installer both time and money.”

Systemair DV units are built to last, being manufactured from aluzinc of the highest quality with a corrosion protection rating of Class C4 as compared with galvanised sheet steel Class C2. All units come with 50mm of insulation as standard.

Due to the new unit designs, the AHU’s are now available in over 10,000 possible combinations.

The Systemair DV series has been designed with the installation contractor and service personnel in mind. The large inspection doors give ease of access to all functions, and all components that require maintenance are side withdrawal up to 3m./s. From this duty upwards the fans and rotary heat exchanges are too heavy to be side withdrawn ... in these cases the units are so large that it is easy to do maintenance from within the unit.

The Systematic Controls package is an intelligent, efficient system, designed for users who require advanced control and monitoring of an individual or several units simultaneously. At the same time the Systematic is very simple to operate. It is pre-programmed with standard values and is easy to adjust to individual customer requirements at installation. The system has different possibilities built in for communication with BMS systems through FLN-, LPB-, or LON/BAC netbus.

Quality design and quality manufacture are key strengths, all DV air handling units conforming to EN1886: 1988, Ventilation for Buildings, Air Handling Units, Mechanical Performance.

Systemair DV units are already installed in a number of prestigious projects, including Dublin Castle; The Radisson Hotel, Sligo; Gatwick Airport; and the Polish Presidential Residence in Warsaw. The new DV unit is sure to bring many more projects to the Systemair Portfolio. A full Irish project list is available upon request.

Contact: Mark Russell, Systemair.
Tel: 01 - 862 4544; email: sales@systemair.ie

Manotherm In The Netherlands

Picture shows (back row): Henrik Steffensen, Lars Rusted, Denmark; Jochen Briem and Mirko Nemyuczuk, Germany; Robert Gilbert, Manotherm, Ireland; Thierry Vandervoort, Belgium; Laurent Yhuel, France; Noel Walsh, Manotherm, Ireland; Rob Thompson and Mark Fisher, Dwyer, USA; Tony Graves, France; Asko Kosonen, Finland; Kees Veen, Netherlands; Franck Isabet, France; Roger Black, Dwyer, UK; (Middle Row): Bradley Chapman, Dwyer, USA; Markus Pich, Germany; Robert Gilbert Snr, Manotherm, Ireland; (Seated): Lena Bernhed, Sweden; Kornelia, Switzerland; Meryam Sana and Patrick Vooghtout, Netherlands; and Craig Martin, Dwyer, USA.

Manotherm, who has been representing Dwyer in Ireland for 40 years and has received “Best Agent” awards on numerous occasions, was present at Dwyer’s most recent sales meeting in Lisse in the Netherlands.
Making the Best Use of Nature’s Air

"While nature creates air, we see our role as making the best use of it," says Mike O’Donoghue of Mark Eire. He was referring in particular to Mark Eire’s new RECx and RECxR mechanical ventilation with double energy recovery series.

The x series is equipped with crossflow plate heat exchangers, with a nominal thermal efficiency of 60%, while the HR series is equipped with counterflow heat plate exchangers, reaching nominal thermal efficiency of more than 90%. This high efficiency is such that no post-heating is necessary.

"If you design heat recovery then you must design efficiency," says O’Donoghue. "It is absurd to recover thermal watts while electrical watts are being wasted. This is the reason why we have decided to equip both REC series with TAC technology high-efficiency fans as standard. This results in a much higher total efficiency."

The REC series can be modulated according to the requirements of the application and can be installed outdoors (providing appropriate options). The range is engineered in order to facilitate specific product design, manufacturing, transportation and installation.

The structure of the units are made of anodised extruded aluminium profiles, assembled together with reinforced polypropylene corner pieces. The side panels are double-skin insulated 30mm thick for the HR series and 15mm for the x series. The outside lining is pre-painted steel with the inside galvanised steel.

Thermal and acoustic insulation is carried out with fire-proofed EPS panels, compliant with European environment regulations. A bypass is available as standard to allow free cooling in the summer.

Contact: Mike O’Donoghue, Mark Eire. Tel: 026 45334; email: sales@markeire.com

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Win a Sanyo Hi-fi Reader competition

Enter our reader competition and you could win a fantastic Hi-fi in our prize draw. Simply answer the questions and complete the details, copy and fax back to BSNews on 01 288 6966.

April 2004 competition

1) Which Irish International Footballer recently came out of retirement to make himself available to play again?
   a) Ray Houghton □   b) Johnny Giles □
   c) Roy Keane □

2) Which American golfer won the 2004 US Masters after coming so close on so many occasions?
   a) Ernie Els □   b) Phil Mickelson □
   c) Vijay Singh □

3) Which product will Sanyo be mainly promoting at the forthcoming Energy Show on May 12th-13th 2004?
   a) ECO-I R410a □   b) GHP □
   c) Mobile Units □

4) What is the COP rating of the new Sanyo R410a DC Inverter wall unit?
   a) 3.9 □   b) 4.6 □   c) 3.6 □

5) Who is the Vice-President of the United States of America?
   a) Al Gore □   b) Dick Cheney □
   c) Condeleeza Rice □

Name: ___________________________
Company: _______________________
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Sanyo
AIR CONDITIONERS
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Fax back to BSNews on 01 288 6966
The second Idéo Bain held in Paris recently confirmed its status as the premier bathroom concepts exhibition for Europe. With 250 exhibitors from all over the world, the variety of ideas, styles, products and bathroom concepts on display was staggering. Apart from individual product presentations, manufacturers and designers working together created 50 fully-working, complete bathrooms.

Over 41% of the visitors to Idéo Bain were installers, while merchants accounted for 19.7%, and architects, contractors and interior designers for 22%.

As always, an international panel of judges assessed all the products and displays on view on the first day and made awards under the various Idéo Bain Awards categories. Details of the winners were as follows:

**Hotel Bathroom**
The “Hotel Bathroom Prize” was presented to Terence Conran. The unanimous choice of the firms at Idéo Bain in recognition of his overall achievements, Terence Conran created a new hotel bathroom exclusively for Idéo Bain.

**Outdoor Bathroom**
Outdoor bathroom built around an olive tree for shade and freshness. A room that is all freedom and clarity: Tangiers, the Mediterranean or Greek islands. Design: Christian Migeon

**Design Product Award**
Tatami line — a floor-mounted shower tray formed by modular ceramic plates set in flexible resin. Two to five plates (73 to 178 cm); three colours — white, iridescent white, or anthracite black.

**Technical Innovation Award**
DL 400S Legionella treatment system: This system allows DL 400S mechanical shower taps to be triggered remotely and simultaneously. Combined with thermal shock treatment, it offers an effective means of combating Legionella by treating the pipes right up to the outlet points without the risk of burning or infecting personnel.

** Jury’s Favourite**
La malle des Indes (The Indian Mail) — A mini toilet cabinet for small spaces in a single piece of furniture. This creation reflects a new rhythm of life, that of the travelling spirit, bohemian without formalism, where function and concern for detail rule. This toilet cabinet consists of a white Ceramyl basin, a fluorescent light and a mirror. Available in three materials — Imperials red painted MDF; ash veneer olive; and melamine-coated aluminium. Dimensions: Width: 700cm; Depth: 520cm; Height: 1360/1210cm. Design: Pierre Cazenove.

**Jury’s Special Prize**
The Ciel de Pluie (The Rain Shower) — Rediscover the pleasure of natural rain in the bathroom. A patented system combining the soothing effects of the bath with the tonic effects of a shower. Enjoy the soothing and relaxing effects of a fine summer rain by fitting a “second” shower ceiling. Plain stainless steel sheet, dimensions: 48 cm by 48cm or 65cm by 65cm.
O

f all the innovations evident at the recent Mostre Convegno Expocomfort exhibition in Milan, the new “Bathroom Fittings” Show section revolved around comfort and the technologies of well-being linked to new concepts, new interpretations and new market developments. Apart from the actual appliances, the responsible use of water resources was also covered.

This aspect was emphasised by Mauro Stratta, Managing Director of Fiera Milano International, when he asserted that: “special attention and policies for water are imperative today, since this raw material, all too often wrongly and inopportunistly considered as being ever-lasting, deserves particular care.”

Bathroom Fittings Show creator Oliviero Toscani said: “The image of the bathroom today is expressed through the concept of water. Water as a symbol of well-being. The term WC struck me almost like a provocation. It might appear rather on the vulgar side, but in actual fact it’s very up-to-date. WC is an old symbol, which immediately comes to mind, but in a present-day context. It’s an expression which can adapt to the times, a concept which can be updated. At the same time it creates a strong conceptualisation of the relationship we have with water and with the care of the body”.

The competition, named “Inside the Bathroom”, received ideas and projects providing new forms and new lines for the concept of the bathroom as seen from non-traditional viewpoints. The number of entries was unexpected, with more than 3,000 professionals from over 80 different countries taking part in the competition. The largest number was from Italy, with almost 500 entries, followed by the Americans with over 300. A highly-qualified panel of judges made up of designers and architects assessed the projects from both design and technological aspects, with special attention to the functions expressed in the most traditional uses of the bathroom. According to the experts’ assessment, the projects presented were of an excellent standard, presenting original solutions reflecting highly-competent technical choices.

All the works presented were used to create a Gallery of proposals and solutions that designboom.com has published on its online magazine www.designboom.com.

Mostre Convegno Trends

FIZZY BUBBLE by Tom Jonckers, Belgium — “Fizzy Bubble” integrates whirlpool, bath and shower into one sensorial and relaxing water-womb experience.

Dose by Alain Berteau, Belgium — “New faucet system: a one finger, five-way navigation key.

ONE4Two by David Richiuso, Luxembourg — ONE4Two ... a couple’s moment, like taking refuge in your own bathroom.

AquaWise by Luc Vincent, Belgium — Be AWARE of the amount of AQUA that you use!

Water Reusing Bathroom by Peter Varga, Slovak Republic
Why Choose Copper For Bathroom Installations?

The type of material used for the plumbing and heating systems in bathrooms needs to be something the installer and specifier can trust and rely on. This, essentially, is why copper is the preferred choice of the vast majority of professionals in the industry.

The primary reasons why copper has dominated the market for the past 40 years can be summarised as follows. It is:

- Tried, tested and proven;
- Versatile;
- Long-lasting;
- Healthy and safe;
- Good value for money;
- Recyclable;
- Resists heat, corrosion, pressure and fire;
- Non-permeable;
- Excellent support.

According to Conor Lennon of Irish Metal Industries latest research by international experts Davis Langdon Consultancy shows that copper is 27% more cost-effective to install than steel in non-domestic installations.

Moreover, research has also concluded that copper pipes reduce the risk of Legionnaires' disease. This is especially important and highly topical in an Irish context with the most recent outbreak identified in Kilkenny.

According to a new study undertaken by KIWA, the Dutch water quality research Institute, copper pipes reduce the growth and spread of the bacteria responsible for Legionnaires' disease.

Legionella concentration in water conveyed by copper pipes was found to be 90% less than in cross-linked polyethylene pipes, one of the most commonly-used types of plastic piping in plumbing.

Dr John V Lee, a Consultant Clinical Scientist and expert on the detection and control of Legionella at the Health Protection Agency, commented on the findings: 'There have been a number of reports indicating that biofilm formation, and the growth of Legionella in particular, is less on copper than alternative piping materials. The results of this study follow this trend, suggesting that copper not only supports less Legionella but it is also easier to disinfect than polyethylene pipes with water at 60°C, the conventional control measure in hot water systems. This study provides further evidence that copper is the material of choice for plumbing hot water systems where the control of Legionella is important.

The study also emphasises the importance of keeping hot water at a minimum temperature of 60°C and cold water below 20°C. The greatest reduction in the number of bacteria is achieved when these recommended temperatures are used in combination with copper piping.

Conor Lennon of IMI states: "The outstanding qualities and benefits of copper as a tried and tested plumbing material, demonstrating excellent health attributes, are well known. The latest research findings are very significant and reinforce copper's position as the first choice of the professional installer. Research shows a clear advantage in using copper for its excellent resilience at high temperatures."

Today's preventative treatments and disinfecting techniques are carried out at higher temperatures to reduce flushing time. One of the benefits of copper is that it remains unaffected by higher temperature cycles over the lifetime of a water system. This allows preventative treatments and disinfecting techniques to be carried out effectively.

Lennon adds: "Copper provides excellent protection against contaminants which may affect the domestic water supply. It has now been proven that copper has advantages over Pex in reducing the growth and spread of legionella."

Contact: Conor Lennon, Irish Metal Industries.
Tel: 01 - 295 2344;
email: conor.lennon@irish-metalindustries.com
white

Designed by David Chipperfield and inspired by the relationship of geometric forms, the sculptural simplicity of White brings the best of contemporary design to the bathroom. White has a selection of eight pieces from which you can create your perfect bathroom.
Following the introduction of Fernox Flux and Fernox Powerflow by Hevac, installers and contractors have reacted very favourably, especially to the performance qualities and ease of use of the products.

Fernox Flux was developed following two years of extensive research and extended field trials. It is a heat-activated flux which means that the whole piping system can be cut and assembled before returning the solder to the joints, saving time and money.

Also, because the cleaning action is only activated during the heating process, the flux does not continue to attack the metal surface after the soldering is complete.

Being non-acidic and non-toxic, Fernox Flux is extremely safe to use and is WRAS approved for both gas and portable water systems. Ideal for copper, mild steel, galvanised iron, tin, zinc and malleable iron. It can also be used with lead-containing and lead-free solder.

It is available from Hevac in tubs of 125ml and 250ml.

Fernox Powerflow is a new flushing machine designed to satisfy the increased emphasis on power-flushing. The units incorporate a number of unique features such as bi-directional direct flushing; acid resistance; a high temperature operation facility (80°C); and a 370W/32m head Grundfos pump in 316 grade stainless steel which allows for a domestic central heating system of up to 200lt capacity (about 20 single radiators) to be effectively and speedily cleaned.

Contact: Hevac Dublin. Tel: 01 - 419 1919; Hevac Cork. Tel: 021 - 432 1066.
Functionality The Key To Good Bathroom Design

With nearly 200 years of experience as a leading supplier of bathroom products, Armitage Shanks is to the forefront in devising bathroom solutions which incorporate versatility and functionality. This applies whether the end-user is an able-bodied person, elderly or infirm, or perhaps disabled.

In all cases the design must take account of all possible user requirements. For instance, a fixed height shower seat may be perfectly suited to one individual but an adjustable seat can be used by everyone. Safety, durability and adaptability are essential.

Nor does functionality mean boring designs and poor aesthetics. Armitage Shanks produces an extensive range of very attractive, style-conscious, bathroom products which reflect modern-day interior design preferences.

The new Calista range by Trevi is a typical case in point. This is a stunning collection of un-framed enclosures with dedicated trays and coordinating hydromessage shower columns. Calista’s mix of finishes and colours enables makes for unique showering areas. The new contoured design uses clear glass, plus a modern shade of frosted green glass, to create the overall effect.

The coordinating shower columns also use accentuating granite or white and green finishes, with a choice of stylish handles in either clear glass or solid chrome finish. There is also the option of the Trevi Outline, a minimalist-style shower valve and shower kit.

Another example is the updated Conceala cistern. This is the updated version of the very successful original Conceala which pneumatic cistern with chrome or stainless steel push button; and dual flush cistern incorporating flushing/access plate for easy maintenance.

The dual flush cistern can also be built into the wall while the entire unit is compatible with all Ideal-Standard and Armitage Shanks back-to-wall and wall-mounted WCs.

Contact: Sales Office, American Standard Plumbing (Ireland). Tel: 01 - 456 4525; email: americanstandard dublin@aseur.com

Armitage Shanks and Ideal Standard have updated to meet modern installation standards.

All the components are pre-fitted, dramatically reducing installation time and minimising common installation faults.

Called Conceala 2, features include an even more slimline design for reduced duct and furniture sizes; option of lever, push-button, flushing plate; or electronic plate; low and high-level furniture versions; easy-grip lever; single-flush

Pictured is the Calista shower column, Calista contoured hinged door and front panel in clear glass, and curved side panel in frosted green, with the Calista Contour grey granite shower tray and shower column

https://arrow.tudublin.ie/bsn/vol43/iss4/1

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SUPERIOR CHOICE FOR PROFESSIONALS

Developed and manufactured right here in Ireland, MFP Drainage Systems are the obvious choice for professionals. As one of the most cost effective, professional systems around, quality and value are guaranteed when you choose MFP.

The comprehensive range of products from MFP conforms to national and international standards.

SOIL & WASTE

SEWERAGE

RAINWATER & PVC DUCTING

Leaders in PVCu building products

MFP Sales Ltd

Published by ARROW@TU Dublin, 2004
Elegant and stylish, Myson towel warmers will enhance the appearance of any bathroom. Economical and efficient, they also add to the comfort of the room, as well as keeping towels warm and dry.

There is a wide range of standard units of different designs to choose from, or you can have one manufactured to your own personal requirements. These modifications include size, shape, colour, changes to tapping size and position, dezinc-proof units, and copper panel radiators. Myson operates stringent quality controls to ensure that the highest standards are maintained, with every unit being pressure tested before leaving the factory.

Latest introduction to the range is the new "Eco" collection of ladder-type towel warmers. These highly-efficient warmers from Potterton Myson come in a choice of attractive designs and are competitively-priced.

Bringing together quality and craftsmanship, designed and manufactured by the market leader, Myson Towel Warmers are available nationwide.

Contact: Sales Office, Potterton Myson (Irl) Ltd.
Tel: 01 - 459 0870;
email: post@potterton-myson.ie;
web: www.mysontowelwarmers.co.uk

Did You Know ... Did You Know

In the ancient Roma they used a sponge with a handle on the public toilets; In the middle ages rich Europeans used pieces of sheets and monks some scrap from old frocks; Ludwig XIV used wave and ribbons; On Hawaiian Islands people used shells from coconuts; Colonial America used maize ears; In Asia Hindus and Muslims used their left hand.

Moats did provide effective protection to large castles from invading enemies, but not by design. The castles contained no bathrooms. They did, however, have privies built into the outside walls that were dumped directly into the moats. The moats were nothing more than stagnant cesspools that must have been incomprehensibly disgusting. Only a fool would have crossed through one!

As early as 3000 BC city dwellers in the Middle East displayed a reverence for cleanliness by building huge communal bathtubs; Roman citizens who could not afford to be connected to the sewer system availed of luxurious public baths where parties were planned, politics were debated, and business deals were finalised.
Irish Metal Industries supply a complete range of copper tube for hot and cold water installations, gas services, sanitation, central heating and numerous other building and engineering applications. All our tubes are manufactured to the stringent requirements of EN: 1057 and we are licensed to engrave them with the coveted Irish Standard Mark which is the registered mark of the National Standards Authority in Ireland. What’s more we give a unique 25 year guarantee against manufacturing defect. So whatever your requirements you’ll receive nothing but the best quality, service and reliability with copper tube from Irish Metal Industries.

**Service Line:** For orders and further information.
Telephone: (01) 295 2344/295 2137.
Fax: (01) 295 2163

**Irish Metal Industries Ltd**, 25 Spruce Avenue, Stillorgan Industrial Park, Blackrock, Co Dublin.
Lycris-Byrne has been to the forefront in pioneering new designs and new manufacturing techniques for nearly 20 years, the driving objective being to produce cost-effective solutions for a fast-expanding, technology-led, industry sector.

As the market requirements changed and became more demanding, Lycris-Byrne developed ever-more-inventive, customised solutions which have set new standards to which the overall marketplace now aspires.

Consequently, the Lycris-Byrne of today is much more than a copper and steel cylinder manufacturer. These products still form the heart of the basic product range but, it is the manner in which they have been developed into more sophisticated products and systems that sets Lycris-Byrne apart from the competition. Technical excellence, coupled with experience and the application of high-spec technology, has resulted in a unique portfolio capable of providing all manner of customised solutions, no matter what the requirement.

Common to all is a dedicated focus on achieving maximum energy efficiency, coupled with optimum performance, through the use of sustainable materials and manufacturing techniques.

Lycris-Byrne operates from purpose-designed premises in Bray, Co Wicklow, where continuous year-on-year investment in manufacturing plant and equipment has made it one of the most advanced production units of its type in Europe.

This capability is further complemented by the dedicated R&D team who work to keep the company at the cutting edge of new product development. They also form the backbone of the advisory and technical support services provided. As one would expect, all procedures are accredited to ISO 9001:2000. Lycris-Byrne is not just about products and systems but about providing solutions for all manner of water/heating-related building services requirements. While there are standard products and systems, the ultimate strength of Lycris-Byrne is that devising customised, individual solutions is equally standard practice.

A typical case in point is the Lycris-Byrne customised, pre-plumbed, combination hot and cold water storage units. Each unit comprises a cold water storage tank mounted over a copper cylinder (hot water storage), relevant isolation valves, energy cut-out (for extra safety), electric immersion heaters, internal feed, and expansion piping.

The entire unit, except for the cold water storage tank lid, is insulated.

There are three different size units available:—
- 50 gallon cold water storage and 30/35 gallon hot water storage;
- 60 gallon cold water storage and 35/40 gallon hot water storage;
- 70 gallon cold water storage and 40/50 gallon hot water storage.

Outside dimensions:—
- 530mm in diameter and 2100mm in height;
- 580mm in diameter and 2100mm in height;
- 685mm in diameter and 2100mm in height.

Contact: Chris Byrne, Lycris-Byrne. Tel: 01 - 286 3794; email: info@lycrisbyrne.com
Multikwik’s Macerator & Multiflush System

Multikwik’s Macerator and Multiflush system — introduced through MFP Sales — which incorporate features and benefits suggested by feedback from installers who already use established products in the Multikwik line-up.

Macerator
The first is the new Multikwik Macerator which allows toilets and bathrooms to be sited where previously impossible, away from soil pipes or even in basements.

Setting New Standards
The sleek, aesthetic lines, quiet operation and short run times raise the bar and set new standards in the marketplace. The Multikwik Macerator uses a charcoal filter to eliminate odours and is supplied with a genuine Multikwik connector for a guaranteed seal and peace of mind with every installation. Every unit is supplied with a 2-year parts and labour manufacturers guarantee.

High Demand
Customer demand for this new product is expected to be high due to its aggressive shelf edge pricing, technical benefits, and good looks that will grace any bathroom ... a world away from current utilitarian offerings.

Attractive packaging featuring full colour photography and product applications and benefits will ensure that the Multikwik Macerator has a high shelf profile leading to increased sales.

Multiflush dual volume flush valve from MFP Sales

Multiflush
Turning to the Multiflush dual volume flush valve, this has been so popular that Multikwik has been asked by its customers to produce a cistern complete with a Multiflush valve to enable plumbers to fit a water-saving valve when installing a new cistern at a competitive price without having to throw away any components.

Easy To Install
The cistern comes complete with a brand-leading fill valve and flush pipe and comes in two versions — TRC1820 for side fill and TRC1821 for bottom fill applications. The Multiflush used has the 80cm long activation cable suitable for mounting in a vanity application. This cable-operated action takes less pushing force than pneumatic activation and is therefore easier to use, claim the manufacturers.

This new product from Multikwik is ideal for any application where the cistern is concealed, and with an internal overflow already trimmed to suit the cistern, it is easy to install.

Contact: Dudley Foster, MFP Sales.
Tel: 01 - 630 2500; email: sales@mfp.ie

Did You Know ... Did You Know

One of the earliest shower models was called the American Virginia Stool Shower. Developed in the 1830s, the all-wood unit was made of walnut and included a revolving seat, much like a piano stool.

The machine was placed in a tub, and a hand-operated lever pumped water up to the bather’s head and shoulders. A foot pedal controlled the scrub brush that could be worked up and down the user’s back. This unit didn’t only clean away the dirt and grime, it provided an aerobic workout as well!
Life-Long Learning — Embedding the Key Skills

The world of employment and society in general is rapidly changing. The shape of organisations is also changing: de-layering, outsourcing, and the growth of teams. These changes affect the way people work. In the 21st century, the most significant challenge for people will be to manage their relationship with work and with learning.

Employers increasingly recognise that the transition from education to employment is not always straightforward. It is often only a minority of graduates who are able to gain employment that directly utilises the academic content of their education curriculum. Education must provide individuals with the skills to operate professionally within the environment required for the learning society.

What exactly are these key skills? They are educationally identified as the subject of many debates. However, there is broad agreement that key skills are the general skills that individuals need to succeed, both in their careers and in their personal lives.

There is no universal key skills development model that is acceptable. However, there are several basic methodologies that can be adapted for the introduction of key skills into the student experience. These are the bolt-on approach which provides separate courses or modules to address key skills development; the integrated approach which addresses key skills directly with the technical and academic content; and the embedded approach in which the skills are not addressed directly but are developed through and within the technical and academic content of modules. Institutions may choose to adopt one methodology or a combination of these.

When it comes to the education of electrical services technicians, technologists and engineers, what are the key skills required? Each of the main professional bodies for the electrical services industry has identified a set of competency profiles for practitioners in the sector. For example, among the specific skills identified and those that were incorporated into the electrical services certificate/degree programme offered by the Department of Electrical Services Engineering (DIT, Kevin St) are the following:

- Leadership, management, and supervision;
- Interpersonal skills;
- Professional conduct.

The approach taken by this Department was a combination of these three methods in the form of a continuum from bolt-on to embedded. The emphasis on a particular strategy varies from year to year. In the early stages, key skills are offered by way of separate modules with embedding taking place in the technical content where possible. As the course evolves, the key skills are entirely embedded in the technical content. The integration of key skill learning with other subjects and vocational training is, in many ways, ideal.

As a result of this approach, the Department of Electrical Services Engineering modules at DIT, Kevin St have the following general aims, apart from technical content:

- Develop a deep-learning environment;
- Enable creative thinking;
- Develop communication, management, career management, personal and interpersonal skills;
- Facilitate the acquisition of skills that will permit individuals to address the challenges of lifelong learning;
- Allow linkage and transfer to other DIT Engineering postgraduate courses, and further afield if desired.

When the foregoing are combined with the technical objectives, those who successfully complete courses in the Department of Electrical Services Engineering should be able to fulfil the following learning outcomes:

- Work as a member of the team;
- Demonstrate ability in problem solving, analysis and decision-making;
- Decide on suitable action plans and implement them effectively;
- Explain the design and control of modern building environments;
- Make professional presentations and write technical reports;
- Apply current software applications.

Graduates from the electrical services modules in the Dublin Institute of Technology will possess a wide range of personal, interpersonal, communication and management skills, as well as the traditional technical and professional skills. This will ensure they are well-rounded graduates capable of lifelong learning, who would be able to take up gainful employment in a diverse range of areas such as electrical services design, contracting, manufacturing, technical services, etc.
Kevin O'Connell, Head of the Department of Electrical Services Engineering in DIT Kevin Street, recently hosted the Society of Light & Lighting Symposium on lighting in the workplace with the aid of his colleagues and a local sub-committee with Kevin Tracey, immediate past chairman of CIBSE, in the chair. The event proved extremely successful and all credit to those on the committee for making it so. Apart from the business sessions, there was also a social programme, culminating in a visit to the Guinness Storehouse, followed by a meal and entertainment. Congratulations to all involved.
While most professionals are familiar with the principal of electricity tariffs, many are confused by the myriad of options contained in the detail. Against that background Tony Kenny, Facilities Manager with IIB, put the following questions to David Jacobs of Irish Estates.

What is the reason for the range of electricity tariffs?
The 1.8 million electricity consumers in this country use electricity in countless different ways. These vary from telephone kiosks at one end of the scale to large-scale production facilities at the other. The range of electricity tariffs is intended to reflect the cost of producing the required quantity of electricity, delivering it at the required rate of consumption to each user, and of billing it in an economical manner appropriate to the scale of the user.

Is there a wide range of tariffs available?
The Public Electricity Supplier, or PES (ESB), publishes a list of about 20 different tariffs. Some of these are further subdivided so that in all over 40 different tariffs are available from ESB. Each of the independent power producers, or IPPs, also have a range of tariffs which they use to calculate costs to their eligible customers.

What are the different types of tariff available?
PES tariffs all fall into one of three broad tariff groups.
— Firstly, there are numerous unmetered tariffs available. These are for uses such as telephone kiosks, aerial towers and boosters, and some street lighting applications. These tariffs are based on parameters such as the electrical load and hours of use, for example, dusk to midnight. The common theme is that these accounts are all of low capacity and of consistent use. The cost of metering, and then regular meter reading, would be disproportionately high compared to the cost of the electricity consumed.
— Secondly, there are accounts where the consumption is metered but the rate of consumption is ignored. These accounts range from domestic to small and medium commercial, manufacturing and other institutions. The consumption may be metered in bulk, or units consumed during the day and night may be metered separately.
— Finally, there are the so-called Maximum Demand or MD tariffs. With an MD account not only are the day and night units separately metered but the rate of consumption is also metered. The MD is the highest rate of consumption measured over any relevant 15-minute period.

By David Jacobs,
Dip.Eng. MIEI Eur.Ing. C.Eng,
Building Services Engineer
with Irish Estates.
Tel: 01 - 704 1400;
www.irishestates.ie

What is the optimum tariff for my business?
The optimum tariff for any business can be determined only from a detailed knowledge of how the business operates and an analysis of a full 12-month cycle of electricity bills. There are, however, some broad guidelines. If your electricity cost is less than around €1,000 per annum, then a basic day rate only tariff may be the most economical one. Accounts such as these are also attractive to suppliers of green energy and you may be able to both help the environment and save yourself some costs by switching to a green energy supplier.

If your electricity cost is greater than €1,000 and less than €50,000 per annum, then a dual tariff, day and night rate meter may be your lowest cost option. The consumption of night rate electricity in many businesses tends to be much higher than their owners or managers believe it to be. Day and night rate tariffs should not be lightly dismissed in the possibly mistaken belief that “we switch off everything before we go home in the evening and therefore we don’t use electricity at night”.

If your electricity costs are greater than €50,000 per annum, then a Maximum Demand tariff (see below) might be the one for you. You should, however, be wary of Maximum Demand tariffs since they are best suited to businesses with a very steady load. Fluctuating loads, vacant areas, intermittent peaks and the like are severely punished, financially speaking.

What is a Maximum Demand tariff?
A Maximum Demand tariff is a tariff where both the consumption and the rate of consumption are metered. The rate of consumption, or demand, is averaged over each 15-minute period of the working day and the meter retains a record of the highest demand recorded in
Electricity Tariffs Unravelled

any billing period. This figure is the so-called Maximum Demand and this forms a significant component of the charging regime.

What is the MIC and what are Capacity Charges?
The MIC or Maximum Import Capacity, is the size or capacity of your connection to the ESB Network. Your Demand or highest rate of consumption determines it. The MIC is contracted with ESB Networks when the account is first opened. Capacity Charges are charges based on the level of your MIC. The Public Service Obligation levy (see below) is also based on your MIC. In any billing period you must pay the full Capacity Charges whether or not your demand reaches that level at any time in that period. If, however, your demand exceeds your MIC, then the Capacity Charges for the excess capacity, that is the capacity over and above your contracted MIC, are calculated at double the normal rate. Thus, it is important that the MIC is set at the correct level.

If you need a change of MIC then this can be arranged by contacting ESB Networks but there is likely to be a charge associated with either an increase or a decrease in MIC.

What is the Public Service Obligation levy (PSO)?
The PSO is a levy introduced in 2003. Its purposes are:
- To ensure that Ireland has reasonable self-sufficiency in electricity generation capacity by ensuring that a percentage of the State's generation capacity is fired by indigenous peat;
- To help protect the environment by promoting the use of renewable energy sources.

The value of the PSO amounted to an estimated €49 million in 2003 and will be an estimated €75 million in 2004. The PSO levy appears, as a separate item, on every electricity bill regardless of supplier.

Is the PSO an additional cost?
The Commission for Energy Regulation states that the PSO is not an additional cost but merely a clarification of an already existing cost to be shown as a separate item on each bill to improve transparency. In practice, price increases in electricity costs since the introduction of the PSO levy have been so high as to significantly cloud the issue.

Are the tariffs complicated?
The ESB tariffs vary in complexity. Some basic tariffs for, say telephone kiosks, are very simple and comprise merely a fixed bi-monthly charge and a Public Service Obligation (PSO) levy. On the other hand MD tariffs have a very complex structure. They comprise about 16 different elements, some of which vary with time of day, some seasonally, and some vary with both time of day and seasonally.

Are all tariffs fixed and in the public domain?
All PES tariffs are approved by the Commission for Energy Regulation, fixed approximately annually, and published in the public domain. These tariffs cannot be varied except for periodic increases which must be approved by the Commission. Independent Power Producers have discretion in this matter. They are not required to publish or fix their tariffs and it is normal that an IPP tariff may vary from building to building depending on the consumption profile of the account. IPP tariffs are a commercial matter between the supplier and consumer.

Can any two or more tariffs be compared directly to determine which is the most economical?
Tariffs can generally be compared with one another but this usually requires the consumption patterns to be analysed with the aid of a spreadsheet or similar software tool. In some cases assumptions concerning load factor and percentage night usage must be made.

Different tariffs generally vary in a number of different ways simultaneously, and it is not usually possible to determine the overall result merely by inspection. Some IPP tariffs may vary from ESB tariffs in one simple respect only. In these rare instances the least cost tariff can be determined by inspection but determination of the full details still require a detailed analysis.
Safeguard Systems was established in 1994 and its core business is the supply and manufacture of dampers and damper control/monitoring systems. Since its inception it has been appointed distributor for Ireland for many market-leading companies (see panels right).

It has also devised and brought to market many of its own products and systems. These include the Safeguard V3 intelligent smoke/fire damper control and monitoring system which was first launched in 1998 and has since become firmly established throughout all of Europe.

Recently-completed Safeguard V3 System projects include:—
- Altnagelvin Hospital (Derry);
- British Library (London);
- Charing Cross Hospital (London);
- Dublin Air Traffic Control (Dublin);
- James St Apartments (Dublin);
- James Connolly Memorial Hospital (Dublin);
- Liverpool University (Liverpool);
- Microsoft European HQ (Dublin);
- QE Hospital (Manchester);
- Royal Free Hospital (London);
- Shannon Air Traffic Control (Shannon);
- St James’ Hospital (Dublin);
- Belfast City Hospital (Belfast);
- Trinity College (Dublin);
- Castlebar Courthouse (Castlebar);
- Office of Public Works (Dublin).

The Safeguard V3 system is very user friendly, totally flexible to meet the demands of practically any modern building, and covers all current European standards. Indeed, Safeguard is continually striving to keep the European market abreast of the latest standards and best practice within its field of expertise. Hence its involvement in bringing its practical experience and know-how to bear in helping to formulate and establish new European standards.

Unfortunately, the situation in Ireland at the moment is that if current minimum standards are adopted they do not prevent the spread of smoke throughout the HVAC system in the event of a fire. This is a key issue as something like 75% of fire-related fatalities are due to smoke inhalation, while smoke also causes most property damage.

Safeguard recommends that fire and smoke/fire dampers be tested at least every three months under dynamic conditions. It also recommends that, as a minimum, smoke/fire dampers should be installed in the riser at each floor level take-off.

Currently, legislation is being put forward which will make regular damper testing a European Standard. Effectively, testing will once and for all spell the end of the “curtain type” fire damper as testing even a small quantity is a prodigious task.

Finally, another major benefit of utilising a Safeguard System that often goes unnoticed is that, as part of the commissioning process, each damper is comprehensively tested and its installation is checked. After commissioning, programmed automatic testing is available to ensure all dampers are working satisfactorily for the duration of their service life.

Contact: Conor Walsh, Safeguard Systems.
Tel: 01 - 276 1600; email: info@safegard.ie

Safeguard Systems Portfolio:—

- Actionair — Smoke/fire and air control dampers
- Belimo — Actuators and valves
- Edelweiss — Explosion-proof actuators and valves
- Konvekta — PVC dampers for corrosive atmospheres
- Ruskin — High integrity dampers
While most of us have a jaundiced opinion of modern-day politicians, Lorcán Mooney, Senior Environmental Engineer with Jacobs Engineering, is a breath of fresh air. He is enthusiastic, sincere, has a social conscience, and is determined to put something back into his local community.

Born and educated in Blackrock, Co Dublin, Lorcán has been civic-minded from an early age. Driven more by the desire to serve and share his good fortune rather than attracted to politics per se, he nonetheless accepts that the way to get things done — especially at local community level — is by way of politics. Hence his decision to accept the nomination as the Fianna Fail Blackrock Candidate for the Dun Laoghaire - Rathdown constituency in the forthcoming local elections. The Mooneys are not new to the political arena. The Nationalist election poster shown here is from 1900 when JJ Mooney ran, won a seat and went to Westminster. In an ironic coincidence he gave his victory speech from the window of Dun Laoghaire Council Chamber to 3,000 people below, the same council Lorcán is running for now.

'Progress and Independence' was the theme one hundred years ago and today the main ideals of his forefather ring true. Lorcán canvassed in the heart of west Belfast during the Northern Ireland Assembly election last November for the now elected Alex Attwood.

An engineering graduate of DIT Bolton St, Lorcán went to London in 1994 where he got a scholarship to attend South Bank University for his BEng Environmental Engineering while working with Cundall Johnston & Partners. He spent six years there in all, before returning to Ireland in 2001 to take up a post with Jacobs Engineering.

Lorcán had been actively involved in St Vincent De Paul during his schooldays in Blackrock College, a role he readily resumed on his return to Dublin. He also re-activated his civic and community involvement through Fianna Fail, holding key positions in the local organisation. This included Ward Director for Mary Hannifin, TD, and Barry Andrews, TD, during the 2002 General Election Campaign. His current role is Blackrock Cuman Chairman in the Dun Laoghaire - Rathdown Constituency.

There are approximately 15,000 homes in the constituency and, since accepting the nomination to run last July, Lorcán has already been around the block once and is presently about half way through the process again. That's an awful lot of door-knocking.

"You come across all walks of life", says Lorcán, "and there are times when you need to be very thick-skinned. Nonetheless, I'm in this to represent the people of Blackrock and I take the views and opinions of all on board. The people of Blackrock need to be sure that their voices and their interests are being effectively represented by someone they know they can trust and that is why I am standing for the local election.

"There is no doubt that it can be very tiring. Remember, I also hold down a very hectic day job. People call the home number at all times of the day (and night!). Still, it is great to be able to help people. That said, when you can't you are the world's worst. Overall, most people are very appreciative."

With the elections now just a few weeks away, Lorcán has definitely stolen a march on the other runners. His profile in the Blackrock area is very strong, thanks in no small measure to the amount of legwork he has put in over the last nine months. He looks a certainty to be elected and the question then is... where next? Are we looking at the prospect of a sitting TD who understands the building services sector? Lorcán, if you think you are subjected to strong lobbying from your constituents at present, think what it will be like when you start to move up the ladder?
Condensing Boilers Could Be Industry's Saviour in More Ways Than One

With condensing or high-efficiency boilers set to become the norm if, as expected, the proposed change to the Building Regulations come into force in 2006, REGII suggests that professional installers providing quality services should encourage customers to go that route now. The potential benefits are enormous.

Apart from increased energy efficiency and the potential running cost savings, condensing technology also means reduced carbon emissions. It is up to installers to explain the benefits to customers and to advocate the switch to condensing or high-efficiency boilers.

Installation Guide
REGII Chairman Kevin Farrelly says that his members are now ready and willing to actively promote condensing technology to customers but, to do so effectively, they need the support and assistance of the manufacturers. He suggests that all the suppliers in this area should get together to produce a comprehensive set of installation guidelines and establish a dedicated helpline for installers.

He has also called for them to join with REGII in devising a one-day training course which would cover not just the technology, installation, commissioning and servicing, but also sales training. Certification in respect of condensing technology could be issued to installers successfully completing the course.

CER Meeting
Having met with the Commission for Energy Regulation recently on the broader issue of certification for installers, REGII is confident that the Commission would more than welcome an industry input. “While nobody has all the answers”, says Farrelly, “together we certainly do. Moreover, if we were to establish a successful communication forum on condensing technology, it would set a blueprint for our contribution to the issue of installer registration along the lines of that operating for electrical installers under the auspices of RECI.

Registration
“Whether people like it or not, registration and more stringent regulation of the industry as a whole — including product performance criteria covering energy-efficiency, emissions, performance, etc — are imminent. We are fortunate as installers that we are now being consulted on these matters and have a genuine input into the process at this early stage.

“Manufacturers too need to be involved. Unfortunately, there is no cohesive representative body for suppliers at present. But that can easily be changed if they are determined not just to safeguard their future, but to influence and shape what the future holds.

First Step
“Perhaps getting together on the single matter of condensing boilers to provide us, the installers, with a decent one-day seminar could be the starting point. Forget the ‘free this and free that’, let’s concentrate on providing a quality service using quality products at prices which reflect the value of what’s on offer.”

Contact: Kevin Farrelly, Chairman, Register of Environmental Gas Installers of Ireland (REGII).
Tel: 087 254 1604.
With many year’s experience meeting the needs of designers, contractors and end users worldwide, Thermo Air Ireland was established in 1981 by its Dutch parent company to design and manufacture ventilation, filtration, heating, cooling and heat recovery solutions for all manner of applications.

Thermo Air is an independent operating company of the Honing Scheer Group and it chose Ireland — and Carlow in particular — to locate its Irish operation because of our skilled knowledgeable workforce and ideal location to serve mainland Europe.

The company has enjoyed considerable success over the years, the main concentration being on serving the needs of the international marketplace. Even today approximately 75% of the manufactured output is exported to countries such as China, Hong Kong, the Middle East, Northern Europe, and the UK, with the remaining 25% destined for Ireland.

However, that balance is about to change following significant investment in new production equipment and the appointment of Michael Burns as Sales Manager for Ireland. Michael joined last September and is responsible for sales development throughout the entire country.

Despite coming on board only recently, he has already raised the profile and penetration of the brand considerably among Irish consulting engineers and major contractors.

To date, investment by Thermo Air Ireland at its Carlow headquarters stands at something like €6 million. Moreover, the 15-acre site has excellent development potential and ample space available to add to the existing 110,000 sq ft of covered factory and warehouse facilities.

Indeed, ex-stock availability is a particular strength of Thermo Air Ireland, with substantial quantities of standard product items across the entire range being held for immediate delivery. That said, flexibility and the ability to devise and manufacture customised solutions for specific applications is second nature. This too can be achieved efficiently and cost-effectively using the company’s own in-house design team, along of course with the wealth of experience and technical know-how of the parent company.

An added strength is that the entire production process of components and systems takes place in-house, thanks to a high degree of process integration.

Thermo Air Ireland provides a comprehensive range of HVAC solutions for all industry sectors. These invariably represent innovative breakthroughs and industry “firsts”, thanks to the technical excellence and experience of the research and development team. They are continuously working on new and different ways of adding performance and value-for-money features to the range, without adding to the cost of the units.

As one would expect, all production processes and quality control procedures are ISO accredited with all products CE approved.

The overall scope and extent of the Thermo Air Ireland range is vast, catering for all conceivable applications (see panels right)

In celebrating almost 25 years of continuous growth and expansion, Thermo Air Ireland is anything but retrospective. Managing Director Jerry O’Neill and his team are firmly focussed on growing their market penetration still further, both in Ireland and on the international front.

Contact: Michael Burns, Thermo Air Ireland.
Tel: 05991 31646; email: mike@thermoair.com

Michael Burns, Sales Manager, Thermo Air Ireland

MARKET SEGMENTS CATERED FOR

Air Handling
- Compact air handling units;
- Modular air handling units.

Ventilation
- Roof supply units;
- Terminal boxes;
- Roof fans (exhaust);
- Fan boxes.

Unit Heaters
- Air curtains;
- Ceiling void air heaters;
- Heat re-circulation units;
- Indirect fired warm air heaters;
- Heating and cooling coils;
- Air to air heat recovery blocks/heat recovery units;
- Electric heating.

Fans
- Direct-driven centrifugal fans;
- High-efficiency centrifugal fans;
- V-belt driven centrifugal fans;
- Direct-drive tube axial flow fans;
- Long-cased tube axial-flow fans;
- Electric motors;
- Speed controllers and switches.

PAGE 37 BSNEWS APRIL 2004
The capacity turnout for the CIBSE Ball in the Burlington Hotel recently enjoyed an evening of fun, entertainment and dancing well into the early hours of the morning. It was an occasion when members and their guests were joined by partners, the emphasis on the evening being very much of a social nature. As Chairman Kevin Tracey did particularly well in keeping the formalities to the bare minimum, and all credit also to Margaret Dolan and her fellow-organisers whose behind-the-scenes contribution made for an exceptional event.
Annual Student Awards

The annual CIBSE Student Awards took place in Bolton Street last month. As always, the large attendance bore witness to the high calibre of the course content and the standing it enjoys within the building services sector at large. The 2004 Technical Diploma, 3rd Year and Final Year Honours Degree graduates were particularly successful and will, no doubt, prove valuable assets to their employers.

Michael McAneney, Vice Chairman, CIBSE Republic of Ireland Branch, with Albert Byrne, CIBSE Committee; Mike Murry, Vice President, CIBSE; Kevin Tracey, Chairman, CIBSE Republic of Ireland Branch; Alan Dubban and Tony McKinley, CIBSE Committee

Eugene O’Loughlin, 2nd Third Year Degree with Brian Fagan, 1st Third Year; Niall Tracey, 1st Final Year; Richard Bruton, 2nd Final Year; John O’Donoghue, 2nd Diploma; and Jim Crosbie, 1st Diploma

Environmental Friendly Integrated Building Design

Michael Crowley with Kevin Tracey, CIBSE Chairman; Professor Owen Lewis; and Michael McAneney, Vice Chairman, CIBSE

Professor Owen Lewis, UCD, presented the MSG lecture on environmental friendly integrated building design in Clyde Road, Dublin 4, recently. Professor Lewis is widely known and respected as a leading authority on the subject, not just in Ireland but throughout all of Europe. He has led a vast amount of research activity in the area and is responsible for quiet a number of papers and initiatives. Hence the thought-provoking and informative evening.

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Heard it on the grapevine ...

Putting on the Style at CIBSE Ball

Imelda and Gerard Keating looking resplendent at the CIBSE Ball in the Burlington last month. See page 38.

Post Haste ... or rather post at snail's pace! For decades Ireland has had to endure a shoddy, unreliable postal service. Between them management and unions at An Post provide a disgraceful service with practices on both sides which are downright scandalous. Imagine having a monopoly in a vast marketplace and still losing €40 million per annum!!!

The recent stoppage was bad enough but, now as I write weeks after the dispute was supposedly resolved, there is still uncertainty about clearing the back-log. Nonetheless, we got the March edition of BSNews to you via a combined direct-drop courier and An Post service. This process will continue until the current situation is resolved.

Speedy Recovery Paddy — Following a recent health setback Paddy Horgan is now well on the mend. He is gradually increasing his working hours and undoubtedly will soon be back in full swing, both in the office and on the golf course.

Bucko On The Move! Bumped into Michael Buckley recently and discovered that he has moved from Blackrock to Lioscarran House, 32 Dale Road, Kilmacud, Stillorgan in Co Dublin. Phone number is the same at 01 - 288 4938.

Over the years since Michael’s Walker days he has consecutively moved offices closer and closer to home. Now he is but five minutes walk from the house ... is this a pre-planned pattern Michael?

Winters Young Lighters Coup — Ken Winters, a recent graduate of the Electrical Services Engineering Course in Kevin St, DIT, has won the CIBSE Young Lighters Competition. Ken works with Buro-Happold and was invited to enter the competition on the strength of his paper on Art Gallery Lighting which he presented to the student finals in DIT last Autumn. Winning the Young Lighters Competition is a magnificent achievement and a reflection not just on Ken himself, but also on the quality of the course run by DIT. Congratulations Ken.

Congratulations to all at Safegard Systems who this year celebrate 10 years providing dampers and damper control and monitoring systems to the HVAC industry. To mark the occasion Sean Magill and his colleagues are to spend the May bank holiday weekend at Druids Glen where some serious challenges will take place on the golf course, clay pigeon shooting and quad biking. Have a ball everyone!

Sanyo Hi-Fi Winner — Keith Milsom of the OPW is the winner of the March Sanyo hi-fi reader competition. Congratulations Keith. In order to receive your prize please call Louise at Tel: 01 - 288 5001.

JUST ANSWER YES — To mark the introduction of the new Danfoss VLT AutomationDrive FC300 variable speed drive, Danfoss Ireland has set up a dedicated website — www.AutomationDrive.com. It also features an online competition for the Lego Mindstorms Robotics Invention System.

Clue: Just click yes to every question, but don’t say I told you so!

Safegard Systems Celebrate!
Enter a new era with Toshiba’s R410A Super MMS Modular Multi System

Toshiba’s new and innovative VRF system operates on the energy-efficient, non-ozone-depleting refrigerant R410A. All compressors in the Super MMS are inverter driven, which is unique to the VRF market.

Additional Super MMS benefits include:

- All condensing units incorporate two twin-rotary DC compressors
- Extended pipe runs for greater application flexibility
- Cooling capacity 14 to 135 kW, heating capacity 16 to 150 kW
- A combination of several outdoor units can serve up to 48 indoor units
- A total of 9 models with 84 indoor units available
- Highest energy efficiency in its class
- Light weight, compact design for ease of installation
- State-of-the-art communication bus system with automatic addressing
- BMS-compatible

Toshiba - the innovator you can trust

Contact us today for more information on the new Super MMS System.
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Complete Solutions

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- Temperature: -80°C to 600°C
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