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et al.: BS News

BSNews

MECHANICAL & ELECTRICAL BUILDING SERVICES

Air Movement & Air Quality

Published by ARROW@TU Dublin, 2005

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FEBRUARY 2005

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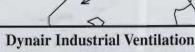




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BSNews

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READERSHIP DATA

BSNews (formerly Irish Building Services News) is Ireland's only dedicated Building Services magazine providing coverage of heating, ventilating, air conditioning, refrigeration, sanitaryware, plumbing, maintenance, energy and environmental industries. It is the only publication catering exclusively for these industries and its circulation includes members of the fellowing:

the following:Charled Institution of Building Services
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(MEBSCA); The Association of Consulting
Engineers of Ireland (ACEI); The Mechanical
Engineering Contractors' Association; The
Institute of Domestic Heating Engineers (IOHE);
The Institute of Plumbing; The Register of
Environmental & Gas Installers of Ireland
(REGII); The Irish Home Builders Association
(IHBA); Builders Merchants/Tracle Supply
Outlets; Irish Property & Facilities Managers
Association.

In addition, BSNews circulates to independent building services contractors and key executives in industry. Government, Semi-State and local authority bodies. Essentially, our circulation is virtually saturation coverage of all those with an interest and/or involvement in the building services industry.

OPINION

Recipe for Disaster

With gas cooker sales at an all-time high the new Regulation on flame-failure safety devices — which became effective on 1 March 2005 — has thrown the industry into turmoil. Everyone in the business welcomes and supports the initiative. However, the difficulty is with the commencement date.

Given that all domestic gas cookers sold in Ireland originate abroad — and most from the UK — the market forces prevailing there is respect of model types and features incorporated determine what we here in Ireland can access. Therein lies the problem.

The latest indications from the EU are that its Directive covering flame-failure devices in domestic cookers will not come into effect until something like March 2008. So, manufacturers have until then to get their full product portfolios compliant.

Limited numbers of cookers incorporating flame-failure devices are currently available but, as market scale and mass volumes govern production runs, it remains to be seen what choice Ireland will have in respect of different model types, styles, etc.

The potentially-damaging consequences for the business are obvious. Some of the largest gas cooker retailers are already facing difficulties. They simply cannot access sufficient quantities of cookers with flame-failure devices — and in the multiple-choice variations consumers demand — to satisfy their needs.

It is all very well Ireland being proactive when it comes to such developments but, to implement such a Regulation in isolation to the rest of Europe — especially given that all our appliance supplies come from abroad — is a recipe for disaster. Those responsible should re-visit the issue with a view to a more streamlined commencement date.

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Versatile Bathrooms Wins Master Retailer Award

Navan-based Versatile
Bathrooms & Interiors
were awarded the Master
Retailer Award for
Bathrooms early this
month by the prestigious
UK-based Bathrooms and
Kitchens magazine. This
is the second time for
Versatile to win the
award and it is the first
time ever that any
company in the UK or
Ireland won it twice.

The presentations were made by awardwinning comedian Jimmy Carr and the ceremony was attended by over 1000 industry professionals who celebrated the achievements of the bathroom, kitchen and interior sectors.

The judges were impressed by Versatile's tenacious approach to improving its business and commended the balance they achieved by being professional yet family run, and being internationally recognised yet also perceived as a local



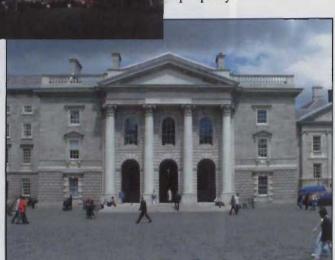
Jimmy Carr, comedian with Catherine Treacy, Versatile Bathrooms and Interiors; Roger Cooper, Ideal Standards and Andrew Treacy, Versatile Bathrooms and Interiors

business.

Catherine Treacy, Joint Managing Director of Versatile said: "We strive to be innovative and individual, we follow and create our own path and it is truly wonderful to gain the recognition of our industry peers".

Wire-Free Fire Protection

When Trinity College needed to upgrade the existing manual fire system in their main Physics Building, a number of demanding requirements relating to the building and its usage had to be addressed. The Fitzgerald Building is a protected structure, and a managed solution was required in order to minimise any interference to the fabric and decor of the property.



The Physics Building at Trinity College (above) and the main entrance to the grounds

Additionally, the library and lecture rooms were to remain in use during the proposed works with research studies and associated activity in various laboratories throughout the building continuing as normal.

Following a review of the available technology, a wire-free solution using EMS Group's 5000 FirePoint radio analogue addressable fire detection and alarm system was chosen.

Working closely with Mercury Engineering, local EMS distributor Vision Radio Fire carried out a radio site survey of the property. This allowed for the final layout and design of the system to be proved, prior to delivery of equipment to site.

The system consisted of an addressable controller and over 100 radio-operated devices,

including call points, smoke and heat detectors, sounder strobes and interface units.

Each of the FirePoint devices were easily installed in less than 10 minutes, as expensive fire-rated cable was not required. This also eliminated the civil works, cable ways and redecorating often associated with hard wired systems.

The internal fabric of the property remained intact, and no disruption was caused to staff or students during the 2day fit out. With all factors relating to the project taken into account, the wire-free solution proved competitive in terms of cost, flexibility and speed of installation.

Contact: Pat O'Sullivan, Vision Radio Fire. Tel: 01 - 492 7341; email: sales@visionsecurity.ie

The next generation of VRF







SANYO are proud to introduce the next generation of simultaneous heating and cooling VRF systems, the ECOi 3 Way Multi. Specifically designed for the UK and Irish markets, the units combine the latest DC Inverter technology and R410A refrigerant to provide dramatically improved energy efficiency, wider operating ranges and longer pipe runs than ever before.





- · Simultaneous heating and cooling
- 22.4kW to 135kW nominal cooling capacity
- Industry low outdoor sound levels: 55 dB(A)
- COPs start at 4.09
- · Provides cooling down to -10°C ambient
- · 150m pipe separations
- · Connectability of 40 indoor units
- · Industry's smallest changeover boxes
- · 10 indoor styles, 11 indoor capacities
- New TouchScreen controller

Simple to apply, install and maintain, the ECOi 3 Way Multi range also qualifies for the Enhanced Capital Allowance Scheme. SANYO - a good decision all round.





All round air conditioning by SANYO



Win a Sanyo Hi-fi

Reader competition Can you Spot the Difference?

Enter our reader competition and you could win a fantastic Hi-fi in our prize draw. Simply spot the 5 differences between the pictures below.





The changes to picture B are:

2

3.

4.

5.

-

Name:

Company:

Address:

Postcode:

Email:

Tel:

Complete the details, copy and FAX back to BSNews

on 01 288 6966

Rules: Competition open to anyone over the age of 16. One entry per person.
Entries must be received by 11/03/2005

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AIR CONDITIONERS

DAB Your Feet in the Waters of Venice



Fancy a trip to Venice? Roy Tolan of Consolidated Pumps has just introduced a programme whereby distributors, contractors, architects and consultants responsible for the purchase of DAB pumps can qualify to join a party travelling to Venice at the end of the year. The trip will include a visit to the DAB manufacturing facility close to Venice and then a day sightseeing in Venice itself.

Qualification to join will be based on the most improved sales figures achieved against those previously set in 2004. Other factors to be taken into account will include adherance to payment terms and the level of promotional support given to the DAB product range.

To ensure that all customers have an equal chance of qualifying to travel, participants will be drawn from various designated categories. These are:—small/medium distributor; large distributor; best new account; mechanical contractor; and architects/consultants.

Contact: Roy Tolan, Consolidated Pumps. Tel: 01 - 459 3471; email:info@consolidated pumps.com

Copper Board Chairman



The UK Copper Board has announced the appointment of Peter Marsh as Chairman. Now in its thirteenth year, the Board represents copper tube and fittings manufacturers supporting the use of copper within the plumbing and heating industry. Peter was previously Chairman of the Copper Board between 1996-1999. He is the Commercial Director of Mueller Europe, a manufacturer of copper tubes for plumbing, heating, refrigeration and various industrial applications and has worked in the copper industry for 27 years.

Still More Southern Comfort

Following our report last month on the new partnership between Sanyo Air Conditioners and Comfort Cooling in Cork, Comfort Managing Director Tom O' Leary told *BSNews* that reaction to the news even at this early stage has been phenomenal.

"We already have a strong and loyal customer base in the region", says Tom, "and, apart from reassuring those we currently deal with, our joining forces with Sanyo has also led to quite a number of enquiries from potential new clients. These include engineers and contractors, as well as blue-chip end users".

Apart from product supply, Comfort Cooling also provides installation, commissioning, after-sales service I maintenance. It has a modern office, warehouse and workshop complex on the Airport East Business Park in Cork, an ideal location to serve not just the city itself but the entire Munster region.

Contact: Tom O'Leary, Comfort Cooling. Tel: 01 - 284 7200.



Comfort Cooling's impressive premises in Cork

GT Phelan Seeks Service Engineer

GT Phelan, sole distributors for Toshiba air conditioning in Ireland, require a Dublin-based service engineer. The successful candidate should ideally come from a refrigeration and electrical background.

Send your cv to Kevin Phelan, GTPhelan Ltd, 24/25 Southern Cross Business Park, Bray, Co Wicklow. You can also email same to kevin@gtphelan.ie

Brade Heat Exchange Packaged Solutions



Brade has developed a range of packaged plantroom solutions specifically designed to meet the most stringent requirements of the construction sector. The modular packages contain boilers, pressurisation and booster sets, heat exchangers for primary and secondary water, circulating pumps, pipework including gas with gas inlet solenoid valve, and electrical panels.

All equipment is designed and manufactured in a factorycontrolled environment to ensure exact modular construction which minimises on-site labour and reduces project management time.

Advanced Technical Products (ATP) are the Brade distributors in Ireland and principal David Daly says that, while design, manufacture and assembly are rigidly controlled, there is a flexible approach to component selection so that all aspects of each individual project can be accommodated.

Contact: David Daly, ATP. Tel: 01 - 885 3793; email: dalymail@eircom.net

Institute of Refigeration

Following the formation of the Institute of refrigeration late last year (see *BSNews* December 2004), membership application forms are now available.

There are various grades of membership on offer — apprentice/student; affiliate; associate; member; fellow; and honourary — with the average membership fee a very reasonable €100.

Contact: Enda Hogan, Institute of Refrigeration of Ireland. Tel: 01 - 878 3772;

email: info@instituteofrefrigerationireland.ie

REL Celebrates Golden Jubilee

Kilkenny-based Refrigeration Engineering Ltd — more commonly known as REL — has marked its 50th year in business by making a donation to a charity associated with one of Ireland's most respected sportsmen ... and all because of a shared experience in the early days of the firm.

Tom McDonald, a Waterford man who grew up in Dublin's Lower Mount Street, met another Dubliner when they shared lodgings in Kilkenny's James's Street in 1954. At that time Tom was setting up on his own as a refrigeration engineer, while his friend was selling vacuum cleaners and training to become a world class athlete.

Fifty years later Tom is Chairman of a very successful refrigeration and air conditioning firm called Refrigeration Engineering Ltd and Ronnie Delaney is head of his own consultancy and Chairman of the appeal for Our Lady's Hospital for Sick Children in Crumlin.

Tom claims that a delayed 'lift' and a city traffic jam on one of their week-end returns to Dublin in the company van put the runner under pressure to run the last few hundred yards to a College Park race at a pace that he was able to replicate in qualifying for the 1500 metres in the 1956 Olympics!

To mark the 50th anniversary of REL Tom presented Ronnie with a cheque for the appeal fund.

"I have always admired Ronnie, not alone for what he achieved in Melbourne, but for the way he has been involved in promoting sports and community values down through the years," said Tom McDonald at the presentation.



Tom and Maureen McDonald, REL with Soren Mortenson, Tefcold, Denmark.

Automatic Bypass Valve Only Way

Automatic bypass valves such as the Honeywell DU145 have been endorsed by the heating industry as the only acceptable means to regulate water flow through the boiler bypass circuit. A gate valve or other fixed orifice opening is no longer acceptable, even when a flow gauge is used to set a minimum flow rate, because it reduces boiler energy by allowing excessive or unknown flow through the bypass.

Whereas an automatic bypass allows flow only when necessary and then by only as much as is required, industry tests show that a fixed orifice bypass allows heat wastage through the bypass even at times of maximum heat demand from radiators.

The Honeywell DU145 automatic bypass valve has a simple adjustment



mechanism that prevents flow through the bypass while system valves are open, and increases water flow automatically as valves close. This raises energy efficiency by minimising bypass flow while, at the same time, providing a safe flow path around the boiler as specified in Good Practice 302.

Contact: e-mail literature@honeywell.com; www.honeywelluk.com

Jet AHU First Majo Casualty of Year

While the demise of Jet AHU is unfortunate and an unwelcome development, it is not all that surprising. With the poor margins being realised right across the board of the building services sector — and especially in air handling — it was inevitable that there would be a major casualty. It so happens that it turned out to be Jet AHU.

According to the Statement of Affairs dated 24 January 2005, the net deficit will be in the region of €1.5 million. Unsecured creditors are owed something like €650,000 while unsecured related company creditors a sum close to €240,000. These figures exclude Revenue, IDA, wages/salaries and directors loans.

Obviously, it will take some time for the exact picture to emerge but the indications are that unsecured creditors will receive nothing.

Homan O'Brien Appoints New Associates

Homan O'Brien Associates has appointed four new Associate Directors — James Reilly, Gerard Keating, Pearse Douglas and Peter Trollope.

"These appointments are part of our strategic plan to provide a strong structure to our company for the exciting years ahead", says Brian Homan. "We now have in place an experienced senior management team at allows us provide our ents with the level of service they deserve. We can therefore continue to offer a personal service with innovative sustainable design solutions that has been

our trademark over the last 40 years".

"We were the first Irish consulting engineering practice to use in-house dynamic computer simulation software", says Simon O'Brien, "and we still have the most advanced simulation software available which we use as a standard design tool. We were the first practice to design a commercial ice bank thermal storage system, first in utilising ground source heat pump technology, first in designing a chilled ceiling and displacement ventilation system, and have pioneered utilisation



Simon O'Brien and Brian Homan, Joint Managing Directors, pictured with the Homan O'Brien Associates Management Team

of building fabric with natural ventilation techniques long before the introduction of overseas consultants to the Irish market".

"This competition is welcomed", concludes Brian, "as it has raised the standard of design and profile of building services consulting engineers.

However, the level of service to clients must be maintained to be sustainable in the future and, with these new appointments, we are prepared more than ever for that challenge".

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UNIVERSAL



MULTIV

...it's going to pay to be in the Comfort Zone

The chic of Art Cool, the adaptability of Universal, the sophistication of Multi V: they are but three of the factors that are going to contribute to our growing success.

New products, new service-driven initiatives and an all round determination to continue to improve our offering to everybody.

Because we want everybody to feel at ease with LG Air Conditioning, relaxed in the knowledge that they are dealing with the world's top manufacturer of air conditioning for five consecutive years*, working with proven units that are easy to install and operating systems that are as economical as they are controllable.

Which is why we're making it our business to get as many people as we can into the Comfort Zone.

Why don't you join us? It's going to be good for your business.



Core Air Conditioning Ltd Tel: 01 - 409 8912 email: info@coreac.com

*JARN (Japan Air Conditioning, Heating & Refrigeration News) 25th November, 2004

www.lgaircon.co.uk

Energy Efficiency a Business Imperitive



With increasing pressure on Ireland to reduce levels of harmful greenhouse gas emissions as the Kyoto Protocol is enforced, greater energy efficiency must become a business imperative for all companies. That is according to David Taylor, Chief Executive of Sustainable Energy Ireland (SEI), who was speaking at the launch of the second annual Sustainable Energy Awards.

Organised by SEI and sponsored by ESB Customer Supply, the Sustainable Energy Awards reward excellence in energy management in the industrial, commercial and public sectors. First launched in 2004, the Awards proved to be very successful with over 250 entries received.

Under the Kyoto Protocol - which officially came into force on 16 February 2005 ---Ireland has agreed to limit emissions growth to 13% above 1990 levels by 2012. Describing the protocol as an "historic and unprecedented international agreement", David Taylor said that its adoption and coming into force sets a new point of departure on the road to sustainability by confronting the threat of global warming in a

creative, flexible and realistic way.

Mr Taylor said: "All of us in business and industry have a responsibility to ensure that we meet our Kyoto targets. The business as usual approach is no longer an option. It is our hope that the Sustainable Energy Awards, now in their second year, will have an important role to play in encouraging companies to achieve tangible improvements in energy efficiency, reductions in energy consumption and the consequent reduction in the level of CO₂ emissions. For all of us greater energy efficiency must now be an imperative".

In 2005 there will again be 18 Sustainable Energy Awards across seven categories — Coordinated Energy Management Programme; Electrical Energy Project; Thermal Energy Project; Energy Awareness Campaign; Energy Service or Supply Company; Excellence in Design or Specification; Energy Manager.

For further details about the competition, including entry forms, visit www.sei.ie/awards.

College Energy Management Bureau Success

Average annual energy savings of 3.3% have been achieved by four Dublinbased colleges as part of a new University Energy Management Bureau initiative. The Bureau, called e3 and launched in 2004 by Sustainable Energy Ireland (SEI), unites four of Ireland's largest third level institutions, in an effort to reduce their annual energy consumption.

Servicing Dublin
Institute of Technology
(DIT), Trinity College
Dublin, Dublin City
University and University
College Dublin, e3 aims to
achieve a 10% reduction in
collective energy
consumption over three
years.

In 2004, the Bureau's

first year of operation, overall energy savings of 3.3% were achieved, exceeding the first year target of 3%. This represents a total cost saving of €119,895 or 976 tonnes of CO₂ emissions avoided. Savings in energy costs at the end of year three are projected at over €315,000 per annum, equivalent to 3,230 tonnes of CO₂ emissions.

Working together with a common focus, the colleges share system set up costs and learn from one another. The Bureau acts as a full time monitoring service on energy usage and professionally analyses investment and management options.

'Who's Building The Future Today'



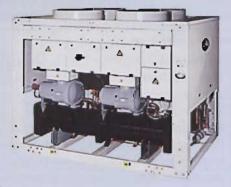
Hugh Wallace, Managing Director Douglas Wallace
Architects & Designers pictured with Sue Wheldon, Strategic
Development Director, Douglas Wallace London and
Augustine McCarthy from AP McCarthy Planning
Consultants at the "Who's Building the Future Today"
seminar in the Westbury Hotel. The seminar explored the
international trends in the property development industry
and the local planning issues arising from such large-scale
developments.



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Chillers

Heat Pumps

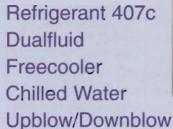
Packaged Rooftop Units

Minisplits

Fan Coil Units

Controls





Dx — Water Cooled

Close Control Air Conditioning

Capacity 4kW to 100kW





Supply Air, Permanent Extract and Heat Recovery Units

Air Flow Range 0.4 m³/s to 5.5 m³/s



Flexible and reliable VRF system

AC Developments & Trends

The air conditioning and ventilation sector is expected to make a powerful showing at the ISH - International Trade Fair for Building and Energy Technology, The Bathroom Experience, Air Conditioning and Ventilation Technology from 15 to 19 March 2005.

Under the name Aircontec, airconditioning and ventilation technology will occupy around 30,000 sq m of exhibition space in Halls 5.0, 5.1 and 6.2 and present components, systems, complete installations and modern services.

Since the introduction of the new European Directive on Energy Performance of Buildings (EPB), there has been a significant increase in demand for information about innovative concepts and solutions in the field of air conditioning and ventilation technology. In this connection, the Air Conditioning Forum in Hall 5.1 will provide the right answers. The Airconditioning Forum is split into four sections. each of which offers an extensive programme of lectures with top international speakers.

These are:-

- Central Air Conditioning Systems for People and Buildings;
- Hygiene and Energy Efficiency: Air Conditioning Maintenance:
- Architecture and Air Conditioning Technology;
- Marketplace for Room Air Conditioning



Air handling unit with evaporative cooling system

Equipment.

Supplementing the Air conditioning Forum, the 8th "Home Ventilation" special show will be held in Hall 6.2 and illustrate how comfortable room air conditioning can be achieved with low heating costs in new buildings or existing buildings with central and de-central ventilation systems.

More than 200 exhibitors will take part in the air conditioning section of the fair. Altogether, some 2,300 exhibitors will present their products and services on 250,000 sq m. of exhibition.

As part of our ISH preview, BSNews conducted an interview with Professor Ulrich Pfeiffenberger, Giessen Fachhochschule (Polytechnic), Chairman of the Fachinstitut Gebäude-Klima e.V. (Building Climate Institute).

Ouestion

Today, the market for airconditioning and ventilation technology offers a multi-faceted range of different systems and solutions. Which of them plays the most important role?

Answer

This question cannot be seen separately from the application concerned. Many industrial production processes are impossible without airconditioning whereby account must be taken of the use of controlled ambient conditions for quality assurance and the use of suitable equipment to protect workers on the factory floor.

The discussion in the press, however, focuses primarily on the use of air-conditioning equipment in office buildings. For this segment, the market offers a broad spectrum of products ranging from air-only equipment to centralised or decentralised air-water systems. Particular mention in this connection must be made of direct expansion units, which are currently distinguished by remarkably high rates of growth.

Finally, mention must also be made of the homeventilation field where, due to the increasingly air-tight construction methods and the need to minimise heat loss caused by airing and ventilation, there is an increasing

demand for mechanical ventilation systems.

The most important role in the airconditioning of office a business premises is currently played by centralised or decentralised air-water systems, as well as direct expansion units. Common to all systems is the significantly smaller space required and, therefore, more opportunities to integrate them into the building structure.

Ouestion

What are the advantages and disadvantages of the variety of centralised and decentralised systems on offer?

Answer

In weighing up the advantages and disadvantages, account must be taken, on the one hand, of the investment, power consumption and maintenance costs and, on the other hand, the space required and the associated costs.

Centralised systems offer a number of benefits in terms of maintenance costs while decentralised systems are likely to be the most advantageous in terms of the investment costs, by which I mean the sum of the equipment and



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building costs.

On the other hand, all thermodynamic functions and controlled air renewal can be used in connection with centralised systems, which is certainly an important argument in their favour.

Most systems are capable of achieving the primary aim of airconditioning, ie, the creation of acceptable and comfortable ambient conditions. Particularly important in this respect is the room comfort for the individual, which is known in the trade as individual room control.

Question

What demands do investors currently make on air-conditioning and ventilation equipment?

Answer

An important conference was held on this very subject in Bonn, last November. The demands placed by investors and architects on airconditioning and ventilation equipment can be immed up as follows — it should require as



Ventilation unit for residential heating

little space as possible in the building and offer the greatest possible flexibility with regard to the frequent changes of use that occur, eg, changes of tenants in the building.

However, calls were also made for the lowest possible investment and operating costs. Against the background of rising energy prices, these costs are once again playing a bigger role today.

Ouestion

Against this background, what direction do you think future developments will take?

Answer

Given the current market situation, prefabricated, easy-to-install, modular systems have the advantage and these requirements can best be met with air-water equipment. However, this technology is facing growing competition from direct expansion units. The systems mentioned are also particularly suitable for the increasing volume of retro-fitting work in buildings caused, for example, by changes in use, the growing number of computers in offices and the increased demand for greater comfort, and take account of changes in the outdoor climate, too.

Parallel to this, however, centralised systems still have their uses, especially in the inner zones of buildings, in large buildings with a high personnel density and in the field of safety ventilation systems.

Question

What role does modern architecture play in planning room-ventilation equipment?

Answer

For me, the outstanding qualities of modern architecture are to be seen in unusual building shapes and the use of large areas of glass. It should also be remembered that more and more modern buildings are being planned with a larger number of users for a given area. In the last analysis, both trends mean high room loads and, therefore, the use of air-conditioning equipment to supply and cool air.

From my point of view, modern architecture cannot replace airconditioning. On the contrary, it needs airconditioning equipment to create the degree of room comfort required. I would also point out that air-conditioning and ventilation systems are essential for safety, especially in larger buildings, for example, smoke extraction and pressure ventilation systems.

Ouestion

What recommendations can you make to create closer and more efficient links between architecture and air-conditioning?

Answer

The most important element is the early inclusion of the buildingequipment planner in the early stages of the design process. Unfortunately, it is often the case that



VRV split air conditioning system

architects and buildingequipment planners literally do not speak the same language. In this connection, the increasing number of experts commissioned to explain faults in finished buildings speaks for itself.

One of the main tasks facing educational institutes will be to bring the two sides into contact via appropriate classes and courses. If we take the average cost of a building, the shell, fittings, facade and building equipment of which account for roughly a quarter each, and also take account of the fact that the facade has a major impact on energy consumption and, therefore, the operating costs of a building, we see that there are two sides shell/fittings and building equipment/facade - of equal standing.

Not that this should be regarded as a problem. In my opinion it is a very solid basis for a fruitful working relationship towards the most effective way forward. A

And I

Toshiba Heat Recovery Companion to SMMS

Toshiba SHRM (Super Heat Recovery Module) from GT Phelan is a 3-pipe inverter-controlled VRF system, operating with R410A, that provides simultaneous heating and cooling for partitioned or multizone environments.

The heat recovery capability of this system will deliver exceptional part-load efficiency, its COP at full load being 3.83, and at more typical lower operating capacities it is even more efficient.

Toshiba SHRM uses much of the patented technology that has made the Toshiba SMMS system such a successful introduction. This is achieved by the use of R410A as the refrigerant, the patented Toshiba hybrid DC inverter control system, and a series of design improvements including the "dual" inverter compressor control.

SHRM is available in 8,10, and 12 HP equivalents, or 22.4 kW, 28.0 kW and 33.5 kW. The indoor unit range includes cassettes, ducted, ceiling, wall-mounted and floor standing units.

A single SHRM module can be attached to up to 16 indoor units. Switching between heating and cooling can be automatic, controlled

by the cooling/heating flow selector. The compact lightweight design of the flow selector means it can be easily installed in restricted space. There is also an easy "cooling only indoor unit" setting.

A range of interfaces to Windows packages, BMS systems and remote monitoring modems are also available. The system can use the same controllers currently used on the Toshiba Digital Inverter and Super Digital Inverter products. These include standard and simplified

wired controllers (2core non-polarity) as well as infrared controllers, central remote controllers and a weekly timer.

The improvement in energy efficiencies and reduction in footprint mean that the product can be specified for many types of large application, ranging from luxury hotels to large office blocks. The 125m allowable separation between outdoor and indoor units and the 50m lift also support these large applications.

An active oil management system

enables an increase in design layout flexibility for the outdoor and indoor units. The range of layout possibilities is believed to give the product an industryleading advantage.

The efficiency of the system has already been verified in full-scale installations in Japan while full ECA approval is anticipated in the next round of updates to the official website.

This latest addition to the Toshiba portfolio further strengthens the scope of applications covered and enables distributors GT Phelan provide an even broader range of solutions. It is also a timely addition in that GT Phelan has just completed its move to new, purpose-fitted-out premises. Located to the rere of its former premises in the Southern Cross Business Park, Bray, Co Wicklow, the new building is virtually twice as large and incorporates extensive office, workshop, warehouse and demonstration/training facilities. Telephone numbers, fax, email and website all remain the same.

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



One of the new Toshiba SHRM (Super Heat Recovery Module) systems being delivered to site by GT Phelan

YORK OCEAN

Portable & Mini-Split Air Conditioning Systems



Become a distributor or approved installer for York



Our Ocean range of portable and mini-split air conditioning systems is rapidly becoming the number one choice in the consumer market. Not surprising, considering these units can be easily installed in any workplace or home and provide both cooling and heating.

We are currently experiencing unparalleled demand for our Ocean products and predict continued and read success in the market. As a result, we are looking for suitable companies to become distributors or approved York installers. As a York partner, you would benefit from product training, lead generation and privilege discounts.

Do you want to expand your product portfolio and increase your revenue and profits by becoming a distributor or installer of our market-leading Ocean range? Would you like to be associated with York and our unrivalled reputation for quality and innovation within the industry? If so, visit www.yorkpartners.co.uk and complete our application form today.*

* Completing the application form does not indicate automatic acceptance as a York partner. Your application will be assessed and we will notify you of your success in due course.

Dublin Office

Tel: 01 4660177 Fax: 01 4660198 Email: yorkdublin@ie.york.com

Cork Office

Tel: 021 4346580 Fax: 021 4346586 Email: yorkcork@ie.york.com



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Harmon — Multiple Choice For Optimum Solutions

Harmon Air Conditioning is a leading supplier of air conditioning solutions with a portfolio of prime brands selected to ensure comprehensive coverage of all applications. These include Mitsubishi Electric, Dunham-Bush and Climasystem.

Mitsubishi Electric is a recognised market-leader in quite a number of air conditioning sectors City Multi - its answer to large scale VRF applications — being a typical case in point. The efficiency of City Multi, and in particular the new R410A YGM-A Series models, is second to none and offers a substantial increase in energy efficiency with corresponding EER/COP ratings.

City Multi offers a simple and flexible solution where there is a demand for a changeover capability between heating and cooling, helping to ensure a constant, comfortable indoor climate. With a wide range of 60 indoor units, up to 32 (depending on the capacity available) can be connected to a single City Multi Y Series outdoor unit.

New models in this range include 12hp and 14hp options, as well as Mitsubishi Electric's "Replace Multi" system which enables the replacement of existing VRF systems while utilising existing pipework.

Mitsubishi Electric also has the ability to provide simultaneous heating and cooling through its R2 and WR2 systems.

Turning to Dunham-

Bush, its range of air cooled water chillers and heat pumps offers cooling capacities from 46kW to 234kW and heating capacity from 48kW to 245kW. All models incorporate two independent refrigerant circuits with 2- or 4-scroll compressors and are only 1,66m height to minimise vertical impact.

Options available include integrated hydraulic kit; electronic expansion valve; partial heat recovery system; low ambient kit; anti-freeze kit; and GSM modem provided with antenna. Microprocessor control suitable for different BMS connections is also available.

Climasystem is based in Milan, Italy and has been manufacturing precision air conditioning for over 20 years. It has a particularly strong reputation in providing solutions for computer rooms, printing rooms, digital telephone exchanges, laboratories (especially where sophisticated electronic equipment is in use) and other similar temperature and humidity-sensitive environments.

The strength of its reputation in this area has now led to broader application fields, particularly in the commercial office sector where the demand for better indoor air quality and comfort levels requires precision control.

Climasystem's "next generation" range includes ac units with internal compressor and water-cooled condenser; units with internal



The Dunham-Bush Galletti range LCS pacakge air condensed water chiller with screw compressor avilable from Harmon Air Conditioning Services

compressor and separate air-cooled condenser; chilled water air-cooled units; split ac units with external air-cooled or water-cooled condensing; "Dual Cool" ac units with two cooling modes direct expansion and chilled water, air-cooled, or direct expansion and chilled water, watercooled version; Ac unit with internal compressor and remote glycol-water cooler.

Other models in the new generation Climasystem range include heat pumps and "Cool Recovery", an air conditioning unit with free-cooling mode.

Taken together, the Harmon portfolio represents a formidable armoury of potential air conditioning solutions which, when combined with the design and engineering skill of Harmon personnel, mean that virtually any conceivable application can be catered for.

Contact: John Harmon, Harmon Air Conditioning Services.

Tel: 01 - 456 4233; email: harmon@iol.ie



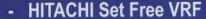
The Mitsubish Electric City Multi Y series is available in two versions for either heating and cooling or cooling only. The system accommodates up to indoor units for each outdo unit.



Computer close control air conditioning equipment from Clima System is available form Harmon Air Conditioning Services

HITACHI AIR CONDITIONING

When Energy Efficiency is top of your list of design criteria, take a look at the brand that remains the innovator and leader in the industry. From the company that invented the Inverter comes the complete DC Inverter air conditioning range.



- R410A Refrigerant
- Heat Pump & Heat Recovery Options
- Industry Leading COP 4.08*

- HITACHI Utopia Single & Twin Split Range

- Full Compatibility with VRF Range
- · Single and Twin Split Options
- Industry Leading COP 4.64*

- HITACHI Room Air Conditioners

- Single and Multi Split Options
 Unique Air Exchange™ Units
- Industry Leading COP 4.46*

- HITACHI Samurai Water Chiller's

- Air Cooled & Water Cooled Options
- Continuous Capacity Control
- Industry Leading COP 4.50*



* The coefficient of performance figures applicable to particular models within each range

HITACHIthe future of air conditioning



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Sanyo ECOi 3-Way Multi ... The Next Generation of VRF

Sanyo, the Japanese global air conditioning manufacturer, has introduced its latest generation 3-pipe VRF system, the ECOi 3-Way. By utilising the high efficiency refrigerant R410A, enhancements in system design and the very latest in DC inverter technology, the range provides dramatically improved energy efficiency, wider operating ranges and longer pipe runs than ever before.

Designed to satisfy the most demanding specification criteria, the ECOi 3-Way Multi is a comprehensive, high-performance 3-pipe range that brings impressive energy efficiency and environmental benefits.

The ECOi 3-way VRF system is an incrediblyflexible air conditioning solution. Up to 40 indoor units can be specified as part of one ECOi system, providing simultaneous heating and cooling for an entire multi-storey building. Outdoor units are available in capacities from 8HP to 16HP and are suitable for both large and small-scale projects as they can be grouped together to provide a single system of up to 48HP (135kW).

All outdoor units have a small footprint which simplifies transportation, siting and installation.

Contractors and specifiers can also select from up to 10 different styles of indoor unit offering up to 11 indoor capacities, and with a stylish new TouchScreen controller.

The range offers a high coefficient of performance (COP) as a guaranteed measure of fuel efficiency. For example, a 22kW (8HP) outdoor unit in

heating mode will produce a COP of 4.09, a figure claimed to be significantly better than comparable VRF brands currently on the market.

Sanyo has also designed the new range with European environmental considerations in mind. It features the lowest outdoor unit sound levels in the industry (55dB(A)), ensuring easy specification of the system in urban locations where noise is often a key concern. It can also provide cooling at -10°C, once again said to be significantly better than comparable VRF brands.

Barry Hennessy,
National Sales Manager at
Sanyo Air Conditioners
comments: "In a fastmoving market that is
driven by performance,
efficiency and reliability,
Sanyo intends to remain
at the forefront of product
innovation. It is true to
say, now more than ever,
that you have to move
with the times or move

out of the way – if a manufacturer is not offering high efficiency electric R410A inverter systems and instead relying upon yesterday's technology, they will fast become a yesterday company.

"The launch of the ECOi is the next step in our five-year strategic plan of steady, controlled and continued growth in the Irish market. Last year we dubbed as the 'year of choice' as we significantly increased our product offering. The introduction of our SAP range of aggressively-priced R410A room air conditioners dramatically increased the number of contractors who have now used Sanyo products and a significant number of those have gone on to buy our commercial R410A DC inverter range.

"In 2005, we will offer what we believe to be an all-round air conditioning solution for the consultant specifier and contractor to access. The ECOi range delivers the efficiency, flexibility and environmental benefits that clients are demanding and it is simple to apply, install and maintain".

Since setting up its dedicated Irish operation Sanyo has captured a significant share of the all-round air conditioning sector. It offers a wide choice in reliable and efficient systems for the commercial, industrial, retail and hospitality industries, via four main product ranges:—

 ECOi R410A electric VRF in both 2- and pipe versions;

 ECO G gas VRF in both 2- and 3-pipe versions;

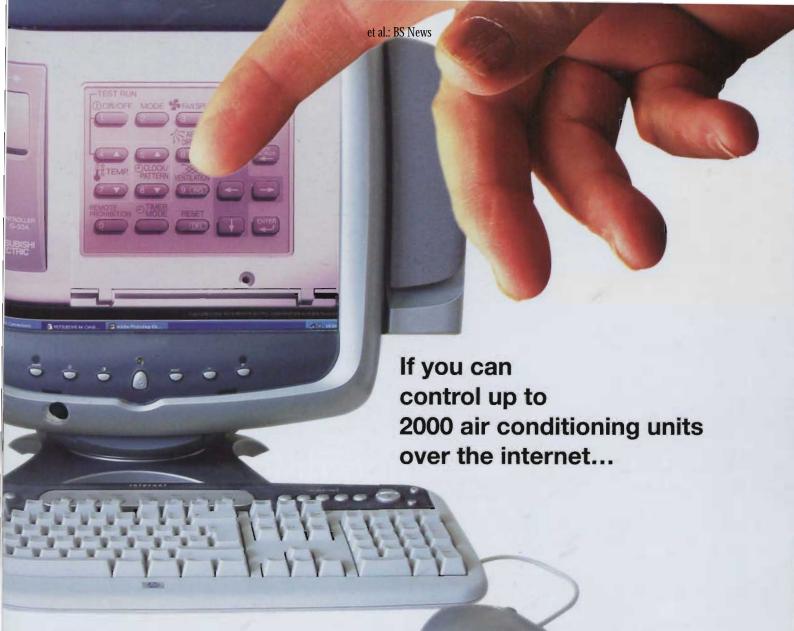
 SPW R410A DC inverter commercial split systems;

 SAP K410A single and multi small room split systems.

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



ECOi 3-Way, Sanyo's new high-performance 3-pipe VRF system



Only Mitsubishi Electric lets you control up to 2000 air conditioning units from the comfort of your computer.

centralised controller with TG 2000 software, the world's first internet technology based control system specifically designed for air conditioning specialists.

Using Internet Explorer as its local or remote browsing software, the G50 enables you to monitor and operate all your control functions, at the push of a button.

You can even programme it to notify you by email or text message to your mobile phone in the event of any malfunction.

What's more, it's simplicity itself to use. And it's "future proofed" to make software upgrades even easier.

With the ability to control up to 2000 air conditioning units over the internet, the new G50 can only be from Mitsubishi Electric.

For more information, Published by ARROW TU Dublin, 2005









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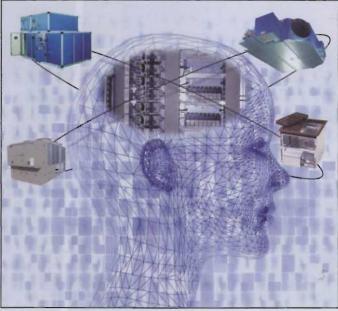
Joined Up Thinking From York SmartPac

York International has combined its expertise in air conditioning equipment and control systems to introduce York SmartPac — the smartest and most efficient approach to providing a complete, integrated solution to control the built environment.

With York SmartPac, each component - chiller, AHU, fan coil or VAV box - is connected to a York PLC, to create an intelligent, packaged system that optimises the building environment, climate and energy consumption and improves fault identification. This results in increased operating efficiency and reduced running and maintenance costs.

All the HVAC equipment controls are fitted and pre-programmed at the York factory and test facility to reduce installation and commissioning timescales and costs. Once on site, the only requirement is to make the final interconnections and turn the power on.

Utilising York
SmartPac's unrivalled
concept, contractors,
consultants and end users
alike can specify a singe
integrated air
conditioning and control
system from a leading
HVAC manufacturer, who
is both an expert in
controls and has the
experience and
knowledge to install and
maintain the whole
system.



With York SmartPac, each component – e.g. chiller, AHU, fan coil or VAV box – is connected to a York controller, to create an intelligent, packaged system

Distributors Wanted

Also new from York is the Ocean range of portable and mini-split air conditioning systems for residential and commercial use. Predicting a tidal wave of demand for these versatile, energy-efficient products, York is seeking partners to become distributors and approved installers of the Ocean range.

The Pacific 9, a portable unit, has been specifically designed to provide low-cost comfort cooling and heating to the consumer market. Its sleek, modern design, flexible programme options and low noise level make Pacific 9 ideal for use both at home and in the workplace, especially when used with the optional remote controller. It is straightforward to install and multidirectional castors ensure it is easy to move from room to room as needed.

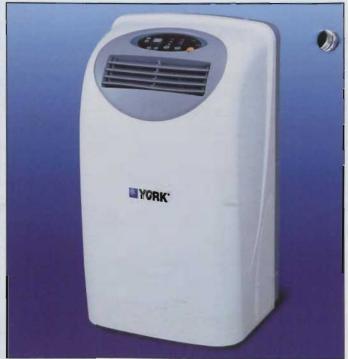
In mini-splits, York offers both high-wall DC inverters and multi inverters. Both models share features, including active carbon electrostatic filters, turbo mode, clock function and automatic restart. They are simple to operate and come with easy to use remote controllers.

The high efficiency DC inverters utilise R410A refrigerant and come with a choice of accessories, such as a "pure air" filter, condensate pump and either a wall or floor mounting kit. The multi inverters use R407C. All units are certified to Eurovent standards.

York's partners in the distribution and installation of its Ocean range will benefit from product training, lead generation and privile; discounts. They could not only expand their product portfolio but also increase revenue and profits. Interested companies should visit www.yorkpartners.co.uk and complete York's online application form.

Contact: York ACR Sales.

Dublin: 01 - 466 0177. Cork: 021 - 434 6580



The York Ocean Pacific 9 portable, low noise air conditioning unit.

economica ecolution:high performance solution



ECOLUTION is the new generation of split, multi-split and VRF inverter systems from Mitsubishi Heavy Industries Ltd.

Packed with new features, our intelligent design ensures high performance combined with ultra energy efficiency. All models are now quieter, smaller and lighter, allowing a simple and neat installation for applications from a single room to an entire building.

ECOLUTION - high performance solution





There are three distinct operations within Marren Engineering — Marren Contracting, Marren Sales and Marren Maintenance.

Engineering excellence is endemic to all, the result being utter professionalism. However, that does not preclude flexibility. No matter what the circumstances a solution can be devised.

Moreover, it is done in a cost-effective, energyefficient, and environment-friendly manner.

Unitary Products — Fan Coil Units

McOuay's unitary range is all-embracing and designed for hotels, healthcare facilities, apartments, retail centres and offices. Advanced design and innovative technology provide a host of installer and end-user benefits such as excellent energy performance, low noise and easy installation. There is also a comprehensive range of accessories and the option of factory-mounted "free-issue" controls.

Split Water Sourced Pump — 2kW to 16kW

McQuay's split water sourced pump systems provide simultaneous heating and cooling with water loop temperatures kept between 10°C and 35°C.

Available in concealed, ducted, cassette and wall-mounted units, they are ideal for hotel and office applications as the motor and condensor can be positioned away from the indoor unit, therby reducing noise levels to NR20.

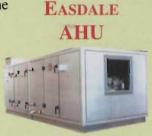
Air Handling Units — 0.5,3/s to 40m3/s

McQuay's new-generation Easdale AHUs are suitable for all manner of applications, especially hospital and other hygiene-sensitive situations. Standard features include stainless steel 25mm and 50mm sandwich panels; stainless steel coils and sluicing spades; motors which are out of airstream; and internal surfaces which are free from lips and edges.

These features complement the Deca-post frame construction which provides excellent structural rigidity while the "cold bridge free" design is also standard.

Units are sized in 50mm increments which makes for utilisation of even the tightest of plantroom spaces.

Energy options include run-'round coils, air to air exchangers and rotary wheels.





Water Sourced Heat Pumps - 2kW to 78kW

McQuay's water sourced heat pump range caters for a diverse and broad spectrum of applications providing a comprehensive choice of heating/cooling capacities.

Highly-engineered and incorporating cutting-edge technology, the Effinity package units range from 2kW to 78kW, operate on R410, and are available for both horizontal and vertical application.

Lower power consumption than conventional air conditioning systems makes for lower operational and maintenance costs while the compact design and low height profile allow maximum use of space.







McQuay Chillers - 8kW to 10mW

Advanced designs, cutting-edge technology and innotative features are the hallmarks of the McQuay chiller portfolio. Incorporating both air and water cooled ranges, most of the models feature McQuay's renowned single-screw compressor technology and, in conjunction with R134a refrigerant, make for the most efficient and quiet chiller selections available on the market today.

Always to the forefront with new develoipments, McQuay has just introduced a smaller range of screw chillers to replace the now-obsolete reciprocating compressor models. These new models cater for the 140kW to 300kW category, thus making single-screw technology available for lower loads and enabling the high COPs of the McQuay chiller to be utilised across a broad band, especially at part loads.

Screw Chillers — 300kW to 2000kW

Designed for quiet, reliable and efficient operation, McQuay aircooled screw chillers help increase comfort and reduce operating costs in hospitals, offices and other buildings. Aerodynamic fan blades, low rpm motors and the unique single screw compressor design make for reduced noise levels.

Stepless control means smooth, efficient performance when moving from 100% to 10%.

The design is service-friendly with easily-accessible components and solid-state starters as standard.

Scroll Chillers — 8kW to 145kW

McQuay air-cooled scroll compressor chillers deliver high energy efficiency for reduced operating costs, and low noise emmissions.



Advanced compressor technology provides quiet, efficient operation while innovative controls provide easy integration with most building automation systems.

Centrifugal Chillers — 350kW to 10MW

McQuay centrifugal chillers provide chilled water for both air conditioning and process cooling applications for either new construction or renovation projects. The single compressor centrifugal chiller offers superior part



efficiency with
a variable frequency drive.
With the smallest footprint
in the industry they
optimise equipment room
space and lower installation
costs.

Absorption Chillers - 300kW to 5500kW

Absorption chillers are the perfect answer to today's urgency in respect of energy and environmental conservation. They are extremely efficient, using waste or on-site heat to generate chilled water,

McQuay's 2-pass system is particularly efficient, the specially-devised controls maximising performance capabilities.

Marren Engineering Limited

1 The Seapoint Building, Clontarf, Dublin 3

Tel: 01 - 833 4144 Fax: 01 - 833 4182 Email: info@marrenengineering.ie

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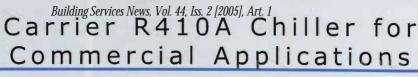
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Carrier's AquaSnap Puron from Core Air Conditioning

The Carrier AquaSnap Puron from Core Air Conditioning is the first air-cooled chiller for large commercial applications designed specifically to operate with refrigerant R410A. Confirming Carrier's role as a leading industry innovator, this new range combines a host of innovative features a total of 16 patents have been applied for.

Based on the concept of the successful AquaSnap range, the new more powerful AquaSnap Puron covers the capacity range from 190-760kW, available in cooling only or heat pump versions. It combines the efficiency benefits and environmental responsibility of R410A with the popular features of the AquaSnap concept.

Puron (Carrier's brand name for R410A), is a safe, stable blend that has been adopted widely over the past eight years as the refrigerant of choice for smaller systems. R410A is not harmful to the ozone layer and has excellent thermodynamic

properties, transferring heat more effectively than any other commonly-used refrigerant. As an example, the use of R410A in the heat pump version of the AquaSnap Puron translates into a COP of 2.8 at full load (nominal conditions).

The Carrier AquaSnap Puron uses rotary scroll compressors and this is believed to be the first time that they have been used in conjunction with R410A for equipment of this size. The enhanced efficiency that is the result of combining R410A refrigerant with scroll compression enables these units to be optimised to deliver the required capacities at reduced levels of power consumption.

To maximise efficiency at the part load conditions that prevail for most of the year, the latest generation patented Carrier Pro-Dialog control automatically detects and anticipates load variations, starting up only those compressors required. Linked to the

electronic expansion valve (EXV) Pro-Dialog improves use of the evaporator heat exchange surface to further optimise energy efficiency at part load.

The resulting very high seasonal energy efficiency ratio (SEER) means that at part load conditions (where most chillers operate for 95% of the time) the AquaSmart Puron delivers around 4.5kW of cooling for 1kW of electricity consumed.

Heat recovery options (total or partial) can further increase overall system efficiency by using reclaimed heat to generate domestic hot water.

The AguaSnap Puron incorporates the fourth generation of Carrier's patented Flying Bird shrouded axial fan. This has an exceptionallyaerodynamic impeller and a high efficiency motor requiring 35% less energy than a conventional fan.

The unit's compact footprint makes it ideal for installation in new buildings or during the refurbishment of existing

buildings, freeing valuable floor area. There is no need for additional plant room space for the installation of pumps, valves, expansion vessels and other accessories as all components have been integrated within the hydronic module, the heart of the AquaSnap concept. For installers there is just one "box" and one set of connections. Today, a 500kW AquaSnap Puron 410A can be operational in three days, including installation, hydronic and electrical connections a commissioning.

The product will be manufactured for Europe, Middle East and Africa in France at Carrier's Montluel plant outside Lyon. The global platform development concept enables the same chiller to be produced with local configurations in three other plants around the world.

Other new products recently introduced by Carrier and now available from Core Air

Conditioning include:-Carrier Aerovision, the new Carrier Holland Heating 39 HQ air handling unit range which includes 120 different standard sizes with a nominal selection range between 0.5m_/s and 35m_/s, with options to go higher;

Carrier Sensation, the new small hi-wall split system intended as the quick-fix that might be needed if a heatwave hits small offices, those working at home, conservatories or small shops or studios.

Contact: Austin McDermott, Core Air Conditioning. Tel: 01 - 409 8912; email: info@coreac.com et al.: BS News TEMPAR Heating Ventilation Air Conditioning

Building Services News, Vol. 44, Iss. 2 [2005], Art. 1 All of Yo

Care & Attention



WE SUPPLY

Split-type AC Systems **VRV AC Systems** Rooftop AC packages Water-cooled packaged AC units Condensers and condensing units Portable AC units Close-control AC systems Modular gas-fired liquid chillers & heat pumps Electrically-driven liquid chillers & heat pumps Chiller-free cooling systems Chiller heat recuperation systems Heat exchange ventilators Outdoor air processing units Air handling units Fan coil units Ice bank cooling systems Gas-fired heating boilers Gas-fired unit heaters Fan convectors Air barriers Flues

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MHI Complete Transition of Portfolio to R410A

Mitsubishi Heavy Industries has now concluded the complete transition of its portfolio to R410A highperformance air conditioning cooling and heat pumps systems.

The split system range, launched in May 2005, has had phenomenal success because of its new technical specification, which now includes 7-day/24-hour programmable timer for all FD Series systems.

In addition, the range has been extended at the lower end to 1.5hp inverter models (1.8 to 4.7kW) and to 6hp models 14.3kW) with indoor units: cassette, ceiling, ducted and wall - mounted.

Programmable Timer 7-day/24/hour -This is now a standard feature on the wired remote controller, type RCE1. It allows two on/off functions per day, with day omitting option, and with different set temperatures for the two operational periods. The standard remote controller can control a group of up to 16 units, making it ideal for retail and office premises.

The Mitsubishi Heavy Industries' 20kW and 25kw Multi systems have always been very popular, especially for retail premises, fitness gyms, conference areas, social clubs, and other open plan areas. 3D is pleased to announce that the new R410A version of these are now available, with greatly-enhanced COP up to 3.86. These new R410A multi systems reduce the cost of installation

compared to individual splits, and of course, are much cheaper than VRF systems which have previously been used for larger areas.

Turning to the Mitsubishi Heavy Industries' KX inverter R410A VRF systems, their design brief was to produce a range of VRF systems, 2-pipe and 3-pipe (energy recovery), which are:—

- adaptable to modern buildings;
- are simple to design and install;
- are highly efficient;
- have capability of LON, BMS and BACNET connection;
- can exceed accepted levels of COP on all models.

Mitsubishi Heavy Industries has delivered on all counts, and exceeded expectations and specification requirements, in particular in the achievement of COP, where a record 4.18 has been attained on certain models in the new KX4 range. Features and benefits are:—

- A new range of high COP VRF systems, with increased compressor efficiencies;
- Compact low cost systems up to 16.0kW;
- KX4+ modular systems up to 136.0 kW;
- Inverter compressors throughout – no fixed speed compressors;
- New outdoor units with 80% extended heat exchanger surfaces;
- Reduced fan sound levels;
- Enclosed compressor

compartment for noise containment;

- An extensive range of indoor units (all VRF type with electronic expansion valves);
- Pipe lengths allowing up to 160 metres separation (an industry record);
- Outdoor units precharged with refrigerant (see manufacturer's data);
- Simple user controls which include 7-day programmable timers;
- R410A high performance refrigerant;
- The useful kW heat output (or cooling output) divided by the kW electrical power input.

The title EHPAC has been given to these remarkable state-of-the-art VRF systems, which endorses the concept of Enhanced High Performance Air Conditioning systems.

Mitsubishi Heavy
Industries manufactures
over 12,000 VRF outdoor
units each year. It has a
global reputation for
quality and reliability, and
an engineering history
and culture based on
extensive knowledge and
experience in the
development of high
efficiency refrigeration
and air conditioning
systems.

3D Air Sales (Ireland)
Ltd is the distributor in
the Republic of Ireland for
MHI products, and can
provide assistance with
design, applications,
equipment selection,
controls, and any other
information on the
extensive range of air











From the MHI highperformance air conditioning cooling and heat pump systems range

conditioning products manufactured by Mitsubishi Heavy Industries. Tel: 1 462 7570.

In Northern Ireland MHI is represented by Aircon Sales & Service in Belfast, a company which has had a long history with the MHI product range, establishing the brand as a market leader in the North.

Tel: 028 9046 6222.



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Hitachi - Quality & Innovation

Hitachi was founded in 1910 by Namihei Odaira as an electrical repair shop for a copper mining company in Japan. The companies first products were three 5hp (3.6775kW) electric motors. Over the next 95 years the company has evolved into one of the worlds largest companies with sales of \$90 billion a year and a product range as diverse as electrical power stations to power tools to air conditioning.

One thing that remains from those early origins is the Hitachi commitment to quality and innovation. Hitachi has a proud history of research and development, with engineering breakthroughs such as the world's first fibre optic communication system in 1976, the development of the 270km/h bullet train in 1993 and the successful measurement of infant brain functions using optical topography in

The innovation of Hitachi in the air conditioning industry has been equally important. They have the distinction of developing:—

Dry-type air conditioning;

— Inverter compressors;

Air conditioning unit's with a scroll compressor;

PAM control for air conditioning.

That impossible continuous continuous

That innovation continues today with the entire range available from Ardline Aircon Ltd, the Hitachi distributor for Ireland. With the launch of an entirely new product range utilising R410A refrigerant and DC inverter technology the company has once again taken the industry to a new level. From its base



as an electrical and electronic company the new air conditioning ranges have been designed to address the serious concerns of energy management and consumption and offer the highest efficiency units available in the market.

The range starts with the 1kW to 5kW room air conditioners. These are offered as single split or multi split options. Most of the units in the range are rated at A/A and are now manufactured with DC fans, so eliminating the requirement to have a 220v supply for the indoor units. The launch of the new Air Exchange™ unit offers a unique product to address the concerns of the ventilation of areas while not requiring the additional space and cost of installing a separate ventilation system.

The Utopia range includes units from 5kW to 25kW and is available as both inverter and non-inverter. Applications are possible for single, dual, triple and quad connections. This range also offers a unique condenser unit for applications where a traditional condenser is not possible. This unit can by installed inside the

building and is compatible with the entire Utopia indoor unit range.

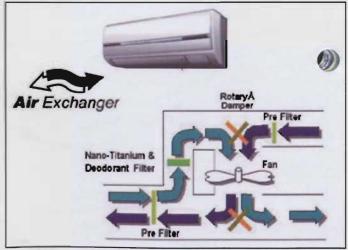
The Hitachi Set Free VRF range is one of the most comprehensive in the market. Starting with the mini VRF systems available in single phase 3hp, 4hp & 5hp systems, to the heat pump (2-pipe) and heat recovery (3-pipe) systems, the range is complete. With its industry-leading COP

figures and advanced control systems, the Set Free range is a pioneering development. With the introduction of the Hitachi patented design 2-blade fan the noise levels of the outdoor unit have also been greatly reduced.

The final product in the range is the Hitachi Samurai water chiller. This chiller continues to be the Number 1 selling chiller in the Japanese market and offers a number of advantages against its rivals. Available in both air cooled and water cooled versions this chiller operates on continuous capacity control. This control method enables the chiller to operate at the required loads and in turn accounts for the industry leading COP figures at partial load.

Contact: Ardline Aircon Ltd. Tel: 01 - 216 4406; email info@ardlineaircon.ie

A Breath of Fresh Air



New from Ardline is a unique wall-mounted air conditioning unit from Hitachi that not only cools and heats, but also ventilates it. Utilising a rotary damper and air pipe, the air within the area can be changed by exhausting the air and also introducing fresh air. The unit comes with a gas sensor for automatic air exchange, a self-cleaning function and Nano titanium and deodorant air purifying filters as standard. As with all Hitachi room air conditioners, the units use R410A refrigerant and DC inverter control to give an A/A energy class rating.



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:

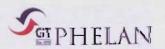
- All condensing units incorporate two twin-rotary DC compressors
- Extended pipe runs for greater application flexibility
- Cooling capacity 14 to 135 kW, heating capacity 16 to 150 kW
- A combination of several outdoor units can serve up to 48 indoor units
- > A total of 9 models with 84 indoor units 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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Sting - Compact & Flexible Air Treatment from Fläkt Woods

Sting is the new generation of compact and flexible air treatment units from Flakt Woods which are designed to be easy to install, start-up and use. Supplied with direct-driven supply and exhaust air fans, supply and exhaust air filters, as well as a rotating heat recovery unit, the comprehensive series comprises units for air volume 0.2-3.3 m3/s (720-11880 m3/h).

In all there are five sizes to choose from, depending on the required flow range. Each size has been optimised with regard to choice of the fan. motors and heat exchanger. All give excellent energy performance returns.

Because of its compact size and high performance, Sting is ideal for installation in public buildings such as day-care centres, schools, offices, shops, etc. The units are also easy to transport to site as they are supplied in three blocks on a base frame.

For added flexibility the fans are always physically positioned in the same place in the unit and are supplied in a right-hand version. With just a simple modification to the control system the unit can be changed to a lefthand version on site. Additionally, for Sting 2-5 the unit is prepared to be changed to outlet/ inlet upwards while the smallest size, Sting 1, can be positioned both horizontally and vertically. Improved control equipment makes installation and start up very easy. The control system, which is also integrated in the unit, is equipped for a large number of external functions with the temperature sensor, electric battery, etc all connected using quick couplings.

The hand terminal is used to read and adjust parameters and functions with all menus clearly shown in plain text. The system is based on authorisation levels, which prevents the unit's operative settings from being unintentionally modified. The unit can

also be supplied without the standard controller but with connection blocks to accept other site-fitted controllers.

Flakt Woods chose the fans concerned to give top performance and overall economy. Sting 1 has kept its direct-driven doubleinlet radial fan from earlier generations, while Sting 2-5 units have been equipped with a newly-developed effective plug fan. The fans are frequency controlled so that the system can be optimised. Class F7 glass-fibre filters are fitted in both supply and exhaust.

All units are fitted with a generous, nonhygroscopic rotary heat exchanger providing excellent heat recovery. The casing is manufactured of galvanised sheet steel with 50 mm

intermediate insulation. Produced with the best possible energy efficiency in mind, the quality 50mm casing, optimised componentry and state-of-the-art control system means an unbeatable package with low SFPv-figure (fan power) and lifecycle cost (LCC).

Finally, there is a wide range of accessories available for Sting, sized and optimised to provide good cost-effective installation. Included are air heaters, air coolers, dampers, sound absorbers, combi hoods, stand for vertical assembly (Sting 1), conversion kits for outlet/inlet upwards (Sting 2-5), and fire/smoke senors.

Contact: Robert Kenny, Flakt Woods (Ireland).

Tel: 01 - 463 4600;

email:

Robert Kenny@flaktwoods.com



In the new generation of STING there are five sizes to choose from, depending on the required flow range. Each size has been optimised with regard to choice of the fan, motors and heat exchange.



HIMOD S



The new HIMOD S range from Liebert-HIROSS raises the bar of performance in precision air conditioning setting new standards in terms of enregy-efficiency, compactness and sound emmissions, while still offering unmatched environmental control and reliability.

MATRIX



MATRIX is the new Liebert-HIROSS product line of air-cooled chillers designed to combine the best performance in terms of efficiency and reliability with the lowest impact on the environment.

MATRIX S



MATRIX S is the new chiller range from Liebert-HIROSS, covering cooling capacities between 40kW and 280kW. The units have been designed in order to satisfy the requirements of differing applications. It is avilable in several configurations and with many options.

HIMOD



The HIMOD range from Liebert-HIROSS is the solution for systems demanding uncompromising reliability and precision, year after year. It is used for conditioning critical systems in a variety of key applications, such as computer rooms, the telecommunications industry and technological sites.





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LG To Unvail Multi M & F Inverter Systems

LG aims to steal the forthcoming RAC Show in Birmingham with the first ever showing of its new range of Multi M and F inverter systems, and Multi V vrf products, along with the Universal outdoor unit and new additions and variants to its indoor units.

The LG stand will also be host to a major prize draw, open to all, to win a St£17,000 Nissan Primastar, an ideal vehicle for any a/c contractor. Entry is open to all visitors to its stand at the show.

Pride of place on the stand will go to the flagship product, the Multi V vrf. Packed with features and benefits for both the a/c contractor, designer and end user, these new units offer ease and flexibility of installation and design, along with high efficiency, reliability and low noise.

Available in sizes ranging from 4.5 and 40hp, Multi V can power up to 16 and 64 indoor units from just one outdoor unit. It can be controlled via the internet, a PC, a deluxe or simple controller.

"This is our first move into this part of the a/c market", says Austin McDermott of distributors Core Air Conditioning, "and we are already planning further products that will strive to be the industry's benchmark standard in the sector. We have made our mark in the splits market with an advanced range and intend to follow the same philosophy in producing-

technically superior products which will be easier to install, easier to use, and as energy efficient as possible."

LG Multi V has great flexibility in that the longest pipe run can be up to 125 metres and a maximum vertical height of 50 metres. The outdoor unit also uses "auto addressing", automatic confirmation of each indoor unit, without the use of cumbersome dip switches, by storing and sending specific numbers to the EEPROM, a part within the indoor unit. This facility also greatly reduces installation time.

Another time saver is the use of non-polarised wire. Communication between outdoor and indoor units is impossible if the polarisation is different. The Multi V houses an algorithm which automatically finds the correct polarity and enables quick, simple and easy communication. There is also a selfdiagnostic programme. During installation, commissioning and operation phases any problem can be diagnosed easily and conveniently using a PC or notebook. If any error occurs its error code will be displayed on the controller screen for action.

LG will also feature the stylish ArtCool range of designer indoor units at the show. ArtCool's slim contours mirror that of an art frame, putting it on a par with any object d'art and heralding a massive leap forward in a/c design.



 LG 's Multi V flexible and reliable VRF system from Core Air Conditioning

Nonetheless, beneath the stylised look of ArtCool is some of the most sophisticated air conditioning technology in the world. Three-dimensional airflow ensures even, all-round coverage of the room from the front and both sides of the unit, with electronically-driven inlet and outlet louvres.

A photo-catalyst deodourising filter removes any odours and keeps the air fresh, protecting the interior environment against pet odours, tobacco smells and unpleasant cooking fumes.

ArtCool air conditioners operate on single phase with some of the lowest sound levels available, making them ideal for any office of even a domestic conservatory.

With cooling/heating capacities of 3.3kW to 5.3kW, ArtCool also utilises LG's refrigerant R-410a. This alternative refrigerant has superior engineering capabilitie and is better suited to Irish requirements. It operates at a pressure approximately 1.5 times that of systems using R22 with comparable energy efficiency. R410a has zero ozone depletion potential(ODP) and, due to its high efficiency and density, a reduction in the size of system components is achieved.

Contact: Austin McDermott or Paul Schweppe, Core Air Conditioning. Tel: 01 - 409 8912; email: info@coreac.com

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new Maico

The New Practical Way of Ventilation

With the new Maico AVW external wall fans Irish Fan Distributors offers an innovative solution for effective, and at the same time noiseless, ventilation of private and commercial rooms such as bathrooms, toilets, meeting rooms, conference rooms, etc.

The essential point is that instead of it being installed in the traditional way inside the rooms the fans are installed at the external walls of the buildings. They are connected to wall or circular ducts with exhaust air opening to the rooms, for example disk valves. This means air extraction is not realised from inside to outside, but from outside to outside. Therefore, the fan and the noise emerging from its operation are located not inside the aerated room but at the external wall.

The advantage is obvious — due to the external position of the fan its noises can hardly be heard inside and therefore are not disturbing at all.

A further benefit is the quick, easy and costsaving installation. The external wall fans of Maico are especially suitable for renovation and reconstruction. Due to the compact rectangular form and flat size the fans do no harm to the overall impression of the facade. A protection grill against accidental contact, as well as an air stream operated shutter, are incorporated in the housing. The weatherproof metal fan cover can easily be taken off for mounting and maintenance works.

The new fans are available in three sizes for duct connections DN 100, 150 and 200 and in six performances with air volumes between 185 m³/h and 760 m³/h. The backward curved centrifugal impeller achieves an optimal efficiency and assures a high pressure. The degree of protection IP X4 guarantees an impeccable operation, even under bad weather conditions.

According to the requirements the fans can be controlled by means of suitable electronic speed controllers or step transformers from Maico, either infinitely adjustable or in five steps.

The new AVW external wall range is just the latest example from Maico of its innovative approach to commercial and domestic ventilation.



The new Maico AVW external wall fan from Irish Fan Distributors

Each year substantial sums are invested in research and design, all the time pushing the boundaries of conventinal thinking and pioneering new ways and concepts in the pursuit of the perfect-quality indoor air environment.

No matter whether it is a question of domestic air extraction or ventilation systems for industrial premises and workplaces, with more than 900 products, Maico is among the leading European manufacturers when it comes to supplying good air. Apart from technical excellence and optimum performance,

Maico has also received numerous awards for outstanding design, proving its ability to marry the needs of modern-day aesthetics with practical functionality.

Completing the picture is the experience and technical expertise of Irish Fan Distributors' engineering personnel. Billy Wright and his team are all highly-qualified and adept at devising the most appropriate ventilation solution for each given situation.

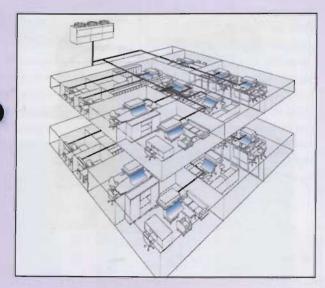
Contact: Billy Wright, Irish Fan Distributors. Tel: 051 - 852 404; email: sales@irishfandist.com



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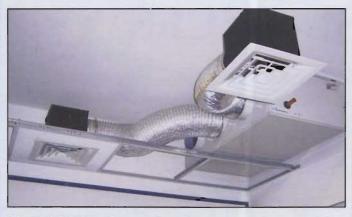
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Thermo Air at ISH



The PCU-600 ceiling void air heater recently unveiled by Thermo Air will be one of the many products manufactured in Carlow on show at this year's ISH exhibition.

The PCU-600 offers both heating and cooling and will give a nominal capacity of 15KW, together with the air distribution kit consisting of discharge grilles, plenums and flexible ducting (optional return air grille).

This heating and cooling system can be easily installed and maintained, is user friendly, and can be accessed from either side.

Thermo Air will also be exhibiting representative samples from it entire portfolio, including air handling units, spaceheating equipment and roof fans.

Contact: Michael Burns, Thermo Air Ireland. Tel:059 - 91 31646; email:sales@thermoair.com

Unico Systems at RAC



All the latest news and product developments from Unico Systems will be presented at the RAC exhibition at the NEC Birmingham (1-3 March 2005). Among the highlights will be the new MB4860 air handling unit. It is claimed to provide up to 20% more heating and cooling capacity than other models available.

Systemair Smoke & Heat Exhaust Fans

The Systemair range of smoke and heat exhaust fans to be unveiled at the forthcoming ISH covers two fan types centrifugal roof fans and axial fans, often used in basement car parks. Systemair roof and axial fans are certified for dual purpose application, meaning both series can be used for daily ventilation as well. The axial fan range is certified for installation inside or outside the area of fire. Applications include:—

- In mechanical smoke extract systems for shopping malls, airports, industrial buildings,cinemas etc;
- For process air with high temperatures;
- Garage exhaust;
- Overpressure



(staircases);
— Tunnels.

Full technical detail on the aforementioned — along the entire Systemair portfolio — are contained in the company's newly-published catalogue. Copies are available directly from Systemair Ireland Ltd.

Contact: Niall Horgan, Systemair Ireland. Tel: 01 - 862 4544; email: sales@systemair.ie

Lennox To Unvail New Portfolio

As we went to press Lennox was about to announce details of a whole new portfolio of enhanced product ranges taking in rooftops, splits and chillers.

Innovative features driven by advanced technolowill predominate, making for considerable end-user benefits in respect of performance, life-cycle costs and energy consumption.

BSNews will carry full details in our next issue. Contact: Pat Byrne, Lennox Ireland. Tel: 01 - 429 9703; email: ireland.sales@lennox.com

ISH 2005 Frankfurt

com

More than 1,000 innovations from 2300 exhibitors will occupy 21 hall levels at the forthcoming ISH in Frankfurt am Main next month.

ISH is the international trade fair for energy technology, bathroom equipment, air

conditioning, and ventilation technology and is by far the largest such show in Europe. Venue — Frankfurt Dates — 15 to 19 March 2005
Contact: www.ish.messefrankfurt.

Decarbonisation Strategies for Organisations

CIBSE REPUBLIC OF IRELAND

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With legislation governing energy labelling for buildings anticipated in Ireland over the next 12 months or so, the CIBSE recently hosted a presentation by UK expert Tony Sung who put the whole issue clearly into context.

In addition to dealing with the practical matters sociated with devising and

implementing decarbonisation strategies, he also gave a background to the UK experience, outlining the problem areas and the mechanisms introduced to help deal with them.

In particular he detailed the various methods that can be used to avail of the different grants and allowances made available by the UK



Michael McNerney, Chairman CIBSE with speaker Tony Sung and Kevin Kelly, CIBSE Vice-Chairman and DIT, Kevin Street

government in their efforts to reduce the amount of carbon emissions to the atmosphere in their country. He also looked at the types of technology that can be used to meet these objectives.

This information was most appropriate as similar legislation to that which applies in the UK will be forthcoming here in Ireland in the next year or so.



Conor Byrne and Grainne Mowlds



Declan Monaghan with Brian Geraghty

New Publications Policy

Starting this year all non-retired corporate members of CIBSE (Fellows, Members and Associates) will receive a newly-published core Guide as part of their membership package of benefits. In 2005, this will be *Guide K:* Electrical Services.

There are several reasons for this new policy, the most compelling being that, over a five-year publishing cycle, it will ensure that all corporate members of CIBSE have the latest

editions of the core design guides. In an age when regulations relating to building design and operation frequently cite CIBSE publications, it is vital that corporate members have up-to-date information to hand.

There are no plans to increase membership subscriptions at any grade to pay for this initiative. It is anticipated that the planned growth in membership will bring in sufficient increased revenue to cover the cost of the distribution of the Guides, even with the expected decline in sales revenue.

The publications will be distributed to the following schedule:—

- ☐ Year 1 (2005) Guide K: Electrical Services;
- ☐ Year 2 Guide A: Environmental design;
- ☐ Year 3 Guide B: HVACR, or any other guide including the Guide

- to ownership, operation and maintenance:
- ☐ Year 4 Code for Lighting, or any other guide as above;
- ☐ Year 5 Guide F: Energy efficiency.

Each year the relevant Guide will be sent to corporate members in June. In years when members have a choice, they will be asked to signify that choice when they renew their membership in January.



C I B S E N E

Lets Act Before Our Collective

Well Runs Dry'

Extracts from Chairman Michael McNerney's address at the CIBSE Biennial Dinner earlier this month.

"At our last dinner here in 2004 we were just emerging from a fairly uncertain time in the economic fortunes of Ireland. The previous year world events and the prophets of doom had us convinced the Celtic Tiger was dead and buried and the property market was in decline. I am happy to note they were wrong and that the economy has picked up again. Although not back to the heady heights of double digit growth, it has resumed at a lower but still impressive level.

In truth we in the building services industry could not have sustained such growth and demand for services without serious repercussions. This temporary pause enabled us to re group and assesses how to work smarter.

"Today we see a steadier building services industry and we see new opportunities emerging in the areas of energy and emissions reductions, and also energy labelling of buildings.

"Global warming is a fact, not fiction. Our climate is changing



Michael McNerney, Chairman, CIBSE Republic of Ireland Branch with Joe Kindregan, Chairman, Institute of Structural Engineers; David Layzelle, CIBSE Vice-President; Professor Brian Norton, President, DIT; and Brian Hunter, Chairman, CIBSE Northern Ireland Branc

and the sea levels are rising. We have acted far too late to prevent global warming and must now learn to live with the consequences of that.

"When I went to school the only flood plain I knew about was the Shannon callow at Athlone near Clonmacnoise, which traditionally flooded every winter. Children today are learning about flood plains in Dunboyne, Co Meath, Lucan, Co Dublin and regular flooding from sea levels in Co Louth and in Cork and Limerick city.

"Recently the Irish

Academy of Engineering produced a detailed and thoroughly researched report on how it sees road, rail and air transport developing over the next 45 years. This report details how it is expected that sea levels around Dublin, Cork and Belfast will rise by about half a metre before 2050. They suggest we may need to build dykes to protect the low-lying areas of Dublin bay such as Sutton and Sandymount!

"Scientists are already seeing that over the past decade, the ice mass of Greenland has begun to decline. Fresh water is accumulating in the nearby ocean, and the ocean water is becoming less dense.

If the trend continues it could have a 'radical' impact on ocean ecosystems. Further, it could lead to a slowing or stalling of the water-flow patterns in the Atlantic that pump warm water from the trop toward the north Atlantic and carry cold water south. That, could lead to dramatically-colder winters ranging from Scandinavia and Ireland to the East Coast of the United States and Canada.

"We need to learn how to survive and adapt our buildings for this new future. Some of the buildings we currently have will not perform well in this new future of warmer summers and wetter winters. We



Eamon O'Brien with Brian Kavanagh and Derry Scully

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"We can do simple things like installing more efficient boilers and chillers. We can design our buildings to be less energy hungry and to perform better. We can courage the use of low-emission renewable energy.

"The Government can subsidise the use of combined heat and power, which is a highly-efficient way of generating electricity and heat. I know that some of these technologies are still finding it difficult to convince the accountants of their merit but I wonder has one factored in the costs associated with dealing with the results of not adopting



Brian Geraghty with Lee Harrisson, and Margaret Dolan, Hororary Secretary, CIBSE, Republic of Ireland Branch; Jerome O'Connor, Chairman, IPFMA; and Michael McNerney, Chairman, CIBSE Republic of Ireland Branch

these technologies. What did the floods in Cork city cost the insurance industry this year? How much did the landslides in County Mayo cost the Government and the insurance industry? What will it cost the government and ultimately the taxpayer to buy us out of trouble with our emissions under the Kyoto protocol?

"This money would



Gary Bernett with David Layzelle, CIBSE Vice-President and Michael McNerney, Chairman, CIBSE Republic of Ireland

be better spent in Ireland promoting our own solutions rather than considering giving the money to enterprises outside the state to purchase emissions credits or pay EU fines.

"We can all play our part in this over the next few years. Make sure that when you get the opportunity that you do the right thing and design for tomorrow,

not just today. Choose to look for sustainable policies from Government and specify energy efficient products in your buildings.

Ther is a saying which says You never miss the water until the well runs dry

Lets all try and ensure that this collective well of existence we currently enjoy does not run dry."



Pat Lehane, BSNews with Kevin Kelly, CIBSE, Vice-Chairman, Republic of Ireland Branch; Don Byrne, DIT and John Egan, Chairman, ETCI



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First Time Apartment Buyer — The Extras



By Shane Mullin,

B.Sc. (Surv) Dip. Prop. Econ.,

MIPFMA

Facilities/Property

Manager.

Irish Estates.

Tel: 01 - 704 1400;

www.irishestates.ie

For many a young first time buyer operating on a tight budget, having struggled to secure a deposit and mortgage, the joy of purchasing their dream home can be dampened by the arrival through their letter box of the first service charge demand from the managing agent for the development. Although the selling agent would have briefly glossed over it, the prospective owner at the time often does not even give it a second thought, but a common area service charge is a necessity of maintaining the value of a home/investment right from the early days of a development as it matures over the years.

On the purchase of an apartment with common areas you then become partly responsible for the management and maintenance of the common areas of the apartment complex. This responsibility generally speaking will be based on the square footage of the apartment compared to the square footage of the total number of apartments and will give you the percentage on which your annual service charge is calculated. You then get charged

this percentage of the total budget, which results in your annual service charge.

The first year's service charge is generally prepared by the developer and their chosen managing agent. Then, due to ongoing closing of sales, choice of first financial year end date (first service charge schedule may run for longer than 12 months) and actual costs incurred in the management of the development, often in year 2 there can be a substantial increase in service charge. This is when it really comes to the attention of the new owner as the first 12 months would have been paid on closing through their relevant solicitor.

Often the question is posed to the managing agents as to what this large sum of money is required for. Historically you could have anticipated the annual service charge to be approximately the equivalent of one month's market rent for the apartment but in recent years this has started to rise with the softening of the rental market and increased costs in the service industry.

What does the apartment owner get for their lump sum every year? Generally speaking the annual service charge will cover the management of the common areas in the following areas if applicable:—

- Provision of a sinking fund;
- ☐ Block insurance policy and public liability insurance cover;
- Cleaning of internal common areas;
- Lift maintenance;
- Pump maintenance;
- ☐ Landscaping;
- ☐ Refuse removal;
- □ Security;
- ☐ General repairs and maintenance;
- Car park maintenance;
- ☐ Audit fees;
- Professional fees;
- ☐ Sundry items;
- Management fees.

More often than not the first iter be queried is the management for which covers the function of the managing agent.

Managing Agent's Function

The managing agent is engaged by the management company to act on its behalf and handle all affairs regarding the successful management of the development. A lot of this activity often goes unseen but it includes:

- Preparation of service charge and sinking fund budgets;
- Apportionment and collection of service charges;
- Putting in place maintenance contracts of all areas from cleaning to refuse to security and supervision of same;
- Managing payroll for caretaker;
- Looking after tax returns;



At the "looking" stage prospective apartment buyers know little or nothing about service

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First Time Apartment Buyer The Extras

- Processing insurance claims on behalf of owners;
- Quarterly financial reporting to board of directors;
- Preparation of annual financial reports for auditors;
- Attending quarterly board meetings and annual general meeting of the management company;
- General replies to ongoing correspondence relating to managing of the development;
- Dealing with house rule breaches.

In the majority of cases the managing agent will also provide the following services:-

- 4 hour/365 day on-call emergency service;
- Secretarial service;
- Health and safety reports.

management company. At the AGM, issues with regard to the management of the development are discussed, the accounts of the previous financial year are approved, directors are elected/reelected and companies office forms are signed.

Generally after a few months of occupation of your apartment a meeting of all the owners of the development will convene. It is extremely important if owners have any issues regarding the development that they attend this meeting. Often owners are unclear as to who is responsible for what.

For example, a problem with somebody's shower will not be the responsibility of the management company as the management company does not take



Service charges apply to all common areas, even such things as underground apartments

Another common item that many new owners may not have encountered before is the fact that now, on the purchase of their new home, they have become a member of a limited management company. This company is bound by the memorandum and articles of association of the management company, which are in effect the rules under which the management company must conduct its business.

Membership of the Management Company

You will receive a membership certificate in the management company which entitles you to be invited to the AGM of the

responsibility for inside the apartment.

This meeting is an opportunity for all worries and views to be voiced to the managing agent and provides a forum for clarity and advice to be given to those present. Also, items of concern that may relate to the snag list can be brought to the attention of the managing agent who can liaise with the developer on behalf of the owners.

Generally speaking, by the time the first AGM has occurred all units will have been sold and the directors of the management company, who up until now will have been the developers, will



As an apartment owner in a shared block you automatically become a member of the limited management company

resign and relinquish control of the management company to the owners.

Members may put themselves forward at an AGM for election to the board of directors, and then in turn, take on the responsibility of acting on behalf of the owners.

A board of directors will generally meet on a quarterly basis to approve accounts, budgets and discuss and arrange the maintenance. One of the most important items is to ensure that a substantial sinking fund is set aside from the outset to cover major capital expenditures such as redecoration every 4 – 5 years, and then further down the line items such as lift and plant replacement may need to be dealt with as they arise.

It is therefore clear that a wellmanaged service charge and sinking fund, which may initially come as a shock, is a necessity for maintaining the development and protecting the value of the property for owners. This is aided by the owners who show an interest in the management company, and often can aid the managing agent in his/ her role.



En Buildings Directive

ne of the biggest challenges facing any sector charged with implementing a new European Directive is to make sure that there is a plentiful supply of the knowledge and skills required to comply with the directive. This is certainly the case with the Energy Performance of Buildings Directive.

Energy performance ratings are set to become a mandatory requirement for virtually all types of property on the market for sale or rent by January 2006. Construction design professionals will have a role to play, not only in assessing the energy performance of a building, but in making recommendations on how to improve the rating. This in turn will have a direct impact on property values.

A decision has yet to be made on how the energy performance of the various categories of buildings will be calculated in Ireland. However, this should not prevent design professionals from evaluating whether or not they have the necessary skills to assess and improve energy performance ratings.

With this in mind Dr Ken Beattie – a lecturer in the School of Civil and Building Services Engineering at Dublin Institute of Technology – started work in early 2004 on a series of Continuing Professional Development courses that seek to address this very issue.

The first course in the series - Simulation in Building Design — was offered in September 2004 and proved to be a huge success. Twenty-eight construction design professionals enrolled on the course in September 2004 and a similar number of participants are expected when the course is repeated in March 2005. "The demand for simulation skills has never been stronger", says Dr Beattie. "Simulation is an incredibly powerful design tool that allows the designer of a building to predict exactly how it will perform and operate once it is built. Increasingly, both public and private sector clients are insisting



Simulation in Building Design — John Norton, Bluett & O'Donoghue Architects, Special Achievement Award Winner on the course with Professor Brian Norton, President, DIT



Simulation in Building Design — Eimear Voyles, Project Management Group, Best Student Award Winner on the course with Professor Brian Norton, President, DIT

that sophisticated simulation studies are carried out on new projects at the early design stage to ensure that the proposed solutions will be successful. This is particularly important when it comes to natural ventilation, passive solutions and mixed mode systems."

Many design professionals are already using some level of simulation in the course of their work but relatively few are using it to anything like its full potential. "One of the main reasons for this", says Dr Beattie, "is that construction industry design professionals find it very hard to take time out to attend training courses. Given that simulation is not something you can pickup on a two day course, we had to come up with a way of delivering a programme that doesn't necessitate regular attendance at the college. Online training was the obvious solution".

Participants on the course in September were

not confined to any one profession but instead reflected the mixed composition of a modern design team. Architects and architectural technologists, building services engineers and electrical engineers all took part in the course and this added to the learning process. Dr Beattie looks forward to the time when design teams routinely use computer simulation as an integral part of the design process. "If we can achieve this" say Dr Beattie, "we can significantly improve energy performance of buildings".

The course on Simulation in Building Design is on offer again in March 2005. The next courses in the series, available later in 2005, are as follows:

- Energy Performance in Buildings Directive;
- Computational Fluid Dynamics;
- Radiance Daylight Simulation;

Contact: Éidín Finlay, National Maintenance Centre, DIT. Tel: 01 - 878 3773; email: eidin.finlay@dit.ie

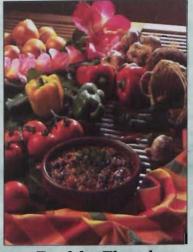
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Sensor Gems from GEMS Sensors

he GEMS Sensors' range from Manotherm is one of the most comprehensive on the marketplace, catering as it does for virtually every conceivable application. Included are liquid level sensors, flow sensors and pressure sensors for use in a broad range of fluids across the industry.

Gems products feature an everexpanding selection of sensing technologies such as electro-optic, ultrasonic, float type, CVD, thin film, capacitance, hall effect, conductance, micropower impulse radar and remote monitoring products and services.

Gems offers single-point sensors, multi-point sensors and continuous level sensors. Flow sensor configurations are available for use in liquids or gases with flow rates from 50cc/min to 100 GPM. Pressure transducers and transmitters are offered



The LS-750 series

in three proven technologies — sputtered thin film, chemical vapor deposition and capacitance.

Pressure switches are available in compact OEM models or larger rugged units for process applications. Popular Warrick brand conductivity level controls are also available.

New products featuring advanced features and end-user benefits are constantly coming on stream, the following being some of the latest to come to market.

LS-700F Series

The LS-700F was specifically designed to provide overfill protection for refrigerant recovery tanks, enabling safe compliance with EPA directives to recover refrigerant tanks. When used as an integral part of a refrigerant recovery system, Gems LS-700F sensors provide 80% full shut-off capability.

LS-270 Series:Bracket Mounting Slosh Shield

These units are ideal for use in oils and water. They are small, lightweight, and extremely stable in non-static, highly-contaminated liquids. Slosh shielding minimises the effects of turbulence and helps prevent interference by foreign material. They can be bracket-mounted to any convenient

surface.

LS-38760 Series

Cushioned Float — These units are ideal for use in oils and water.
Cushioned float and switch for turbulent liquids or excessive vibration, they are easily grounded. Ideal for tank trucks, construction equipment or mobile applications.

LS-750 Series

Weighted for suspension cable, these units are ideal for use in oils and water. With a compactsized float, slosh shield and weighted collar, the LS-750 provides liquid level detection for a wide variety of applications. Suspend in stand pipes or sumps for leak detection duty, or drop into wells for groundwater monitoring. Supplied with 25 feet of waterproof cable.

Portable Level Switch: Integral Mounting Magnet

These units are ideal for use in oils and water. Precisely monitors liquid level and is ideal for controlling filling operations and preventing overflows. Permanent magnet attaches unit securely to steel tank wall at exact level required.

TH-800 Series: Temperature Level Switch

These units are ideal for use in oils and water. Level monitoring and temperature switch in a single unit. Intermediate in size, the single-setting temperature sensor is in bottom of stem.



The LS-270F series



The LS-38760 series



The TH-800 series



The portable level switch with an integral mounting magnet



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ongratulations Dundalk Town Council and, in particular, Housing Engineer Stephen Cull. At a time when the registration of gas installers and the issuing of conformance certificates in respect of the quality of installations is very much in the news, Stephen and his colleagues in Dundalk Town Council have simply got on with it.

Working closely with Para Shaughnessy of CF Ltd — who is an active REGII member and is also a Bord Gais authorised Registered Gas Installer — Stephen has devised a programme whereby all of the Council's properties are comprehensively inspected for conformance to IS813 before being handed over to tenants.

For a modest inspection fee CPG Ltd

carry out a detailed survey of the gas installation in every house. This is particularly important at present as Dundalk Town Council is in the middle of a massive re-furbishment and renewal scheme designed to install gas central heating in all of its existing housing stock. It also applies to newlyacquired housing stock, some of which is purchased from the private sector.

"In all instances", says Stephen, "it is imperative that every single house is inspected and provided with a conformance certificate to IS813 before being handed over to the tenant. Where the inspection reveals a problem it is immediately rectified.

"As a Government body we have an obligation to ensure that all our properties meet the most exacting quality and safety standards. In the case of gas installations this is obviously of paramount importance. The inspection and certification programme we initiated with CPG has proven invaluable in this respect. It is also extremely cost-effective in that potentially-serious problem areas are identified and can be rectified before there is a major mishap".

Some councils might argue that they can't afford such a programme but, with the cost of inspections so modest, the reality is that they simply can't afford not to. Apart fromthe very obvious health and safety benefits, evaluating each installation and identifying actual and protential problem areas could also lead to betterperforming and more energy-efficient systems.

Earlier this month



Ciaran O'Shaughnessy, CPG carrying out a drop test in the presence of John Ferrigan, Housing Foreman, Dundalk Town Council

BSNews went on a site visit in Dundalk with Pat O'Shaughnessy and Stephen Cull to witness first hand a drop test being carried out to check gas soundness at a particular house. No problems were found in this instance and so the Corformance Certicifate was issued and duly handed over.

This initiative demonstrates just how easy and straightforward compliance testing and installation certification can be. Those who continue to sit on the fence awaiting Government Directives and Statutory Instruments are merely putting their heads in the sand. Of couse legally-binding and enforceable statutory directives in respect of the safety of gas installations are desirable. However, while we wait, Stephen Cull has clearly demonstrated that a great deal can be done in the meantime to establish and encourage best practice procedures.



Pat O'Shaughnessy, CPG with Stephen Cull, Housing Engineer, Dundalk Town Council and Gabriel O'Shaughnessy, CPG

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RECI — Raising the Standard for Better Electrical Installations

This month we reproduce extracts from the latest RECI Newsletter. Contact: Mr David McGloughlin, General Manager, RECI. Email: dmcgloughlin@reci.ie. Tel: 01 - 492 9966.

Electrical Cert System Operational

RECI are pleased to report that registered contractors are now using the new electronic completion certificate system.

Unfortunately some contractors are finding it difficult to get the MPRN (Meter Point Reference Number) for their installations, particularly on housing estates which have been under construction for some time. MPRN's are allocated to all units on an estate in accordance with the plans submitted. However, if the developer makes changes to the layout and addresses on the estate then the MPRN's may become incorrect. This problem is being addressed by ESB with developers and it is hoped that similar difficulties will be avoided in the future.

This matter is very important because it is not possible to complete



David McGloughlin, General Manager, RECI with Patrick Hession, Administrator, ETCI; and Tony Kelly, RECI member and electrical contractor viewing the first electronic completion certificate processed online

a certificate
electronically without
entering the MPRN.

There are numerous advantages of electronic completion certificates such as:

- No possibility of certificates getting lost or delayed in the post or mislaid during processing;
- Certificate cannot be rejected because it is not properly completed;
- Contractor has full control of certificates
 no books of certificates can get

- lost;
- Easy reference to certificates at any time;
- ☐ The electronic certificate gives a good impression to your customer.

To find out more about electronic certificates go to the RECI website www.reci.ie and click on Electronic Completion Certificates. If you need further information ring the RECI office on Tel: 01 492 9966.

CER Criteria

RECI are now operating on a voluntary basis in accordance with the document published by the CER entitled "Criteria for Issue of Regulatory Licence an Electrical Contracting Licensed Regulatory Body" CER/04/248. This document has 48 pages and sets out the criteria to be met by a body to receive a licence from the CER, to regulate registered members in the industry. A very full audit will be carried out on RECI in June 2005 by EA Technology acting on behalf of the CER.

There are some clauses in the Criteria which affect registered contractors and RECI gave details of these items in previous newsletters. RECI has now published a bulletin to make sure that all registered contractors are aware of their new obligations. Inspectors will be checking these matters during the annual inspection visit.

RECI Member Directory

RECI General Manager, David McGloughlin presenting the 2005 Directory to Michael McNerney, Chairman, Chartered Institute of Building Services Engineers (CIBSE), Republic of Ireland Branch. The RECI 2005 Directory was distributed free of charge to all BSNews recipients, along with the BSNews Product Specification Guide 2005/6, last month.



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RECI — Raising the Standard for Better Electrical Installations



Wiring Rules Amendments

Amendment No: 2 to the National Rules for **Electrical Installations** will shortly be published by the ETCI.

This is a publication containing an update to ET101/2004. Every so often it is found necessary to revise the Wiring Rules to allow for changes in building practice or changes in ENELEC European rmonisation Directives.

Rather than publishing a revised edition of the Wiring Rules, an amendment showing the changes to the existing rules is printed and circulated. A new addition to ET101 is in course of preparation. This will take some

years and in the meantime recent changes are given in Amendment No: 2.

The Amendment will include changes in:-Part 2 — Definitions; Chapter 44 — Protection against over-voltages -A new section dealing with over-voltages in the installation resulting from either internal switching or atmospheric lighting; Chapter 46 — Isolation and Switching — This is a major revision to the existing section 466 involving the setting up of a new section 539; Chapter 54 -Identification of conductors by colour and supplementary

marking of cables by eg.

sleeving or tape. The new European cable colour code.

Chapter 52 — Protection of cables in solid or hollow walls;

Chapter 53 — A new section on Isolation incorporating the old section 466;

Chapter 55 — Various changes, including socket outlets and extraction fans;

Chapter 61 -Additional test; Chapter 701 —

Amendment;

Annex 43.A — Clause 2, Cookers.

New Harmonised Cables A number of requests have been made to the ETCI for changes to the colour sleeving of cables. These rules are

not made lightly and changes to the rules involve major discussions, etc between various parties. Indeed the chances of the ETCI changing the rules is most unlikely, particularly where they have been recently amended. DC Cables The core colours of DC cables in the new European system,

are:-(a) Positive is brown, Earthed negative is blue,

required after April 2006

- (b) Earthed positive is blue, Negative is grey,
- (c) Positive is brown, Negative is grey, Earthed mid-wire is Blue.

Technical Advice for Contractors

Main Earthing Terminal very important that main earthing terminal is clearly visible and easily accessible in a distribution board. It should not be sealed under a panel or door. This would prevent the contractor from gaining access to the terminal. Contractors are advised to give instructions to this effect to their panel manufacturer.

Polarity of ESB Supply It is very wise to check that the polarity of the incoming ESB supply is correct before making the connection to the isolator switch in the meter cabinet.

Cable Core Colours Sometimes contractors order cable from wholesalers by specifying the type of cable and number of cores but do not actually state the required cable core colours on the assumption that the wholesaler will supply cable with the correct ETCI colour code. Sometimes cable with incorrect core colours is supplied and only discovered after the cable has been installed which can entail considerable cost in rewiring. Contractors are strongly recommended to always specify the type of cable, number of cores and the required core colours when ordering cable for a

Isolation of Bathroom Extractor Fans

RECI inspectors sometimes find that contractors have not provided an isolation switch for bathroom fans as required by the Wiring Rules clause 555.1.2. If there is no isolation provided for the fan the installation does not comply with ETCI rules and therefore cannot be certified.

Also, inspectors find that fans and their isolating switches are mounted in the wrong position ie. inside zone 1 for example. In this case the use of SELV fans would be recommended with the

safety source being mounted outside the zones and their isolation switches should be mounted above 2.25 metres.

A 5amp functional switch is not acceptable as a maintenance isolation switch for bathroom fans.



Plumb Lines



Plumb Lines

Heard it on the grapevine ...

TSUNAMI UNITES -Following an exhausting 2004 with tight competition and intensive fee bidding, it was good to see building services consulting engineers pooling resources and finally working together, all for a good cause. All credit to Simon O'Brien of Homan O'Brien who, together with Francis McNulty of VMRA, jointely drove a fund-raiser for the Tsunami Disaster Relief Appeal. Jim Nolan of RN Murphy, Eugene Phillips of PMC and Barry Flynn of IN2 Engineering immediately threw their weight behind the campaign. The industry responded magnificently, many contributing despite having already given to other campaigns. In no time there was €20,000 in the kitty, a generous donation which was handed over to the Irish Red Cross. Well done all concerned.

GOOD TO HAVE YOU BACK HARRY — Nice to see Harry Pattison back in action after his long lay-off because of illness. Harry is one of a handful of industry father-figures still active in the business and, while he dips in and out as he pleases, it's great that he still enjoys being involved.

LEGIONELLA MANSLAUGHTER CHARGE — A council architect in the UK has been charged with the manslaughter of six women and one man who contracted legionella and died in 2002. Apparently, she cancelled a maintenance contract governing the air conditioning system in an arts centre and, when she renewed the contract, she failed to provide for water treatment of the rooftop cooling towers. This created perfect breeding conditions for the deadly legionella bacteria which in turn affected up to 500 people. So, if you are responsible for similar installations, be vigilant. Apart from the more fundamental health issue, it looks like a legal precedent is now being set in the UK in respect of prosecutions where negligence is suspected. If it proves a runner, can we be far behind?

Sanyo HI-FI WINNER
The winner of last
month's Spot The
Difference
Competition was John
Harper of Mac Ardle
McSweeney
Associates. John's was
the name out of the
many correct entries
in the winners hat.
This months'
competition is on
page 4.

RIGHT WAY UP ... OR IS IT?



Further to our photo-caption competition of last month, this was the winning (printable!) entry.

CONGRATULATIONS
CIBSE —
Congratulations to
Michael McNerney,
Margaret Dolan and
Brian Sterling in

particular on the success of the recent CIBSE biennial dinner. As always the occasion proved an industry highlight, its real strength being in the networking facility it provides both before and after the actual dinner itself. Speeches were kept to

a minimum with David Layzelle, CIBSE Vice-President and Professor Brian Norton, President of DIT, delivering pertinent addresses. However, it was Michael McNerney, CIBSE Republic of Ireland Region Chairman, who best summarised the challenges — and opportunities - now facing the building services sector. Extracts from his

address are

38 and 39.

reproduced on pages

ACCIDENTS COST DEARLY — The Chamber of Commerce of Ireland has devised a scheme called Chambersafe to tackle bad work practices because accidents and workrelated illnesses are costing SMEs something like €300 million per annum. Poor implementation of health and safety procedures is the main culprit. Are house-procedures 37 order?

2020 MARKET VISION There was a time when the relatively small population base of Ireland made for a sales and marketing nightmare. However, that situation is changing. Over the last decade fertility, mortality and migration patterns have seen the population pass the four million mark. If current trends continue that will hit five million by the year 2020.

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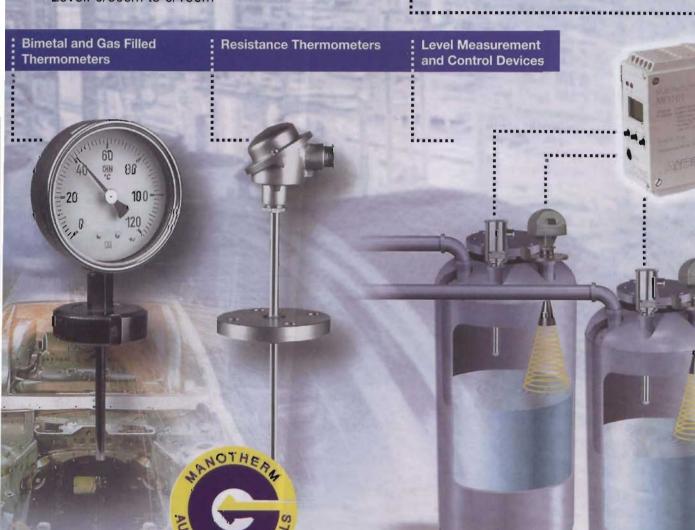
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