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BS News

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BSN News

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MECHANICAL & ELECTRICAL BUILDING SERVICES

JANUARY 2004

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Readership Data

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

Chartered Institution of Building Services Engineers (CIBSE); The Mechanical Engineering & Building Services Contractors' Association (MEBSCA); The Association of Consulting Engineers of Ireland (ACEI); The Mechanical Engineering Contractors' Association; The Institute of Domestic Heating Engineers (IDHE); The Registered Heating Contractors Association; The Maintenance, Energy & Environmental Technology Association (MEETA) which incorporates energy managers and maintenance managers; The Energy Conservation & District Heating Association; The Institute of Plumbing; The Irish Home Builders Association (IHBA); Builders Merchants/Trade Supply Outlets; Irish Property & Facilities Managers Association.

In addition, Irish Building Services News 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 industry.

O P I N I O N

Let's Make Money in 2004

With the latest Tender Price Index published by the Society of Chartered Surveyors (SCS) confirming that construction tender prices have continued to fall, it will be even harder still for industry players to make a reasonable margin in the coming 12 months.

On average, tender prices have fallen by 2.2% in the first half of 2003, and by 5.0% over the full year (from the first half of 2002 to the first half of 2003). The Index is based on actual tender returns for non-residential projects during the period for which it is undertaken.

It is also based on predominantly new build projects with values ranging from €0.5 million to €10 million, and covers all regions of Ireland. On average, prices have now fallen back to where they were in mid-2000.

Ironically, this has occurred against a backdrop of ever-increasing labour and material costs, reflecting the fact that contractors and sub-contractors are competing competitively for a relatively small volume of work in the non-residential sector.

Competition is healthy for any industry but, when that competition is based on price alone — irrespective of, and very often to the detriment of — the quality of service provided, then it is decidedly unhealthy.

The entire psyche of the construction industry needs re-appraisal with clients being made to understand that value-for-money is what matters. Let's make that the goal for 2004.

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No Butts – Employers, It's Your Responsibility!



Michelle Peate-Morgan

Recently Brendan Timbs of IFSC House, the flagship building of the IFSC, and workplace to approximately 800 people, asked *BSNews* if it was possible to clarify the current situation in relation to the forthcoming smoking ban in order to protect the rights of people in his property and to comply with the legislation as a caring landlord. We in *BSNews* passed this on to Michelle Peate-Morgan, Health & Safety Manager with Irish Estates, to clarify the situation for us.

There is so much out there about the proposed new smoking ban, is there any way you can summarise it for me?
This is a very topical subject at the moment and is getting a lot of national press. It can be confusing for employers to ensure they have all avenues covered. Below I have outlined a number of areas that may assist in clearing up any confusion. However, all should become clear when the new Guidance document is published.

Where has the ban come from?
The ban on Environmental Tobacco Smoke (ETS) has come about in the Tobacco Smoking (Prohibition) Regulations 2003, where it states that smoking will be banned "in a place of work".

When will it be implemented?
Due to current objections by some organisations and other EU Member States, these Regulations will not be in place until late March 2004 at the earliest. However, it is advisable to start putting in place the necessary provisions to deal with this ban now.

Are there any exempt workplaces?
Since the drafting of the main Regulation a further Regulation has come into play which exempts a number of "places of work" including private residences, hospices, psychiatric hospitals, nursing homes, the Central Mental Hospital, prisons, B&Bs and hotel bedrooms.

What about smoking shelters?
There has been some debate on smoking shelters. It is now said that these are permitted where only 50% of the structure is enclosed with walls, i.e. two sides. The Department of Health has said that a roof is now permitted on this structure. However, they advise to hold off purchasing any expensive shelters until Guidance documents are available on the new Regulations.

Can existing ventilation systems extract ETS?
The short answer is no. This is taken from the Report on the Health Effects of Environmental Tobacco Smoke in the Workplace, carried out by a working group set up by both the Health & Safety Authority and the Office of Tobacco Control. This report states that: "using dilution ventilation, air cleaning, or displacement ventilation technology, even under moderate smoking conditions, cannot control ETS risk to *de minimis* levels required for workers or patrons in hospitality venues without massively impractical increases in ventilation".

The panellists went on to say that using well-mixed dilution ventilation, used in the overwhelming majority of current installations, was unsatisfactory for controlling worker exposure to ETS. The report on the section of ventilation concludes that smoking bans remain the only viable control measure to ensure that workers and patrons are

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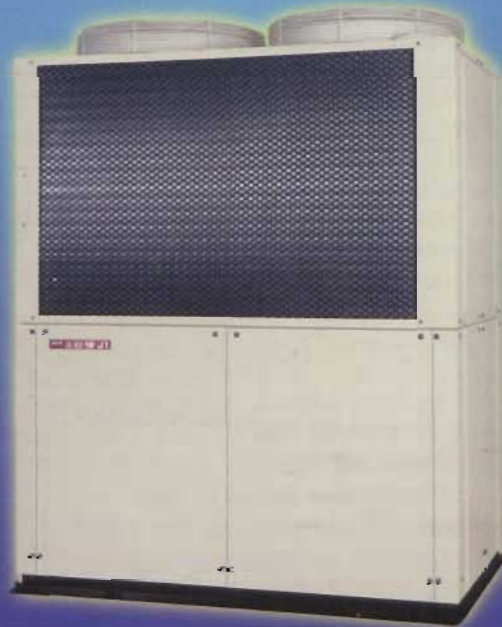
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protected from exposure to the toxic by-products from tobacco combustion.

What about company vehicles?

Where drivers share a vehicle, smoking will be banned but, if a driver has sole use of a vehicle, smoking will be permitted.

Is smoking allowed in yards?

It seems that any open place — “open” meaning without a roof — and yards which would not usually be covered, are generally exempt. However, there may be problems where open spaces are hemmed in with walls.

What about basement car

Is it possible that insurance companies will now issue amended policies, stating that any claim arising from ETS will not be covered in Employers Insurance Cover?

parks?

Basement car parks are workplaces to contractors and maintenance personnel. At a recent seminar an official from the Department of Health said that where smoking is taking place in a basement car park the management company will be fined.

What about staff members who smoke at the front of buildings?

The Department of Health has said that there is nothing in the current Regulations to deal with “Smoke Clouds” at entrances to buildings. However, it is something they will look at in future amendments. It might be interesting to note that currently in some states in the US you are not allowed to smoke within 30ft of the entrance!

Should an employer provide a smoking area?

Employers would be wise to reconsider seriously the whole concept of providing smoking areas, particularly because Environmental Tobacco Smoke (ETS) has been classified as a carcinogen ... employers might be open to claims for exposure to passive smoking.

What about insurance cover?

Because of the obvious implications with regard to employer negligence, it is said that insurance companies will now be issuing amended policies, stating that any claim arising from ETS will not be covered in Employers Insurance Cover.

Again this sends home the message to employers not to facilitate any smoking in or around the building in any circumstances.

Who will enforce the ban and how much will the fines be?

In the hospitality sector Environmental Health Officers will be enforcing the ban. In all other workplaces it will become the responsibility of the Health & Safety Authority. Fines will be up to €3,000 and the duty of care is absolute.

What happens if people continue to smoke in pubs and licensed premises?

The Department of Health has said that this will be a factor when the premises applies for its annual license.

The above is only the current interpretation of the new Legislation. Publication of the Guidance Document is awaited and further investigation will be carried out at that point on the implications.

If you have any queries, or require assistance in implementing the legislation, contact: Michelle Peate-Morgan, MIOSH MIIRSM, Health, Safety & Environmental Manager, Irish Estates.
Tel: - 01 - 704 1400;
web: www.irishestates.ie

Byrne To Head Lennox Ireland



Lennox Industries, one of the leading global players in the supply and manufacture of air conditioning equipment, has opened a dedicated Irish operation with Pat Byrne as Sales Director, Ireland. Pat is widely known and respected

throughout the industry and has extensive experience of working with international brand-leaders in the business, both in Ireland and abroad.

Lennox Ireland will operate from Dublin-based headquarters with product supplies continuing to be available nationwide from the established distributor network.

Full details will be published in the February 2004 issue of *BSNews*. In the meantime, those wishing to contact Pat Byrne can do so at Tel: 087 984 7696; email: pat.byrne@lennoxind.com

Interclima To Focus On Energy Performance

The energy performance of buildings is increasingly becoming the subject of legislation and regulations. Whether you are an installer, specifier, merchant, operator or contractor, Interclima 2004 (Paris Expo, 3-6 February 2004) will provide information about the forthcoming new requirements and offer you solutions that comply with them.

Interclima is an opportunity to meet all those involved in HVAC-R over the space of four days. It is unique in Europe as a platform for the delivery of information about the scope of the new European Directive and the concrete effects that it will have in the sectors you are primarily involved in.

Whatever area you are involved in – residential, services, industry – Interclima 2004 offers personalised visitor trails. Special signs will highlight the products or the solutions at the show that meet the new requirements of the Directive.

There is also a complementary programme of workshops, again dealing with all relevant issues.

The primary sectors covered by the show are:— Heating; Renewable Energies; Smart Plumbing; Control and Measurement; Facilities Management; Refrigeration; Air Conditioning; Ventilation; Air Treatment.

Contact: www.interclima.com

The Advantages of Shatter-Resistant Lamps

HACCP and Health & Safety practices in Irish businesses are more widely adopted and policed today, providing a safer environment for the public at large. This covers all areas of activity but is, perhaps, more noticeable in the food and pharmaceutical industries.

Glass and gas contamination is the ultimate nightmare for these industries. Combined with the main hazard of splintered glass, a typical 5ft fluorescent contains enough mercury to pollute 15,000 litres of water beyond the safe level for drinking.

A smashed lamp over a food production line, at its worst case scenario, might force a company to recall a product incurring costs in time, money and brand reputation. High-quality, shatter-resistant, lamps are the answer.

Perhaps you already use IP65-rated fittings ... why should you need shatter-resistant lamps? The use of IP65 fittings offers a certain level of protection but can offer no protection during normal maintenance, or when the diffuser is damaged through constant chemical washing as required in

the food industry. When shatter-resistant lamps are used in these fittings it is important to ensure that the lamp coating chosen will withstand the intense heat within the fitting.

In the construction industry festoon lighting, by its very nature, poses a health and safety risk when the lamp shatters. This can be avoided with the use of shatter-resistant bulbs which are now available on the market.

Additionally, all contractors are now charged with responsibility for the safe disposal of used fluorescent and high-discharge lamps which contain various gases. Landfill sites are not the answer and anyway, we have reached the watershed in terms of their capacity. What the industry requires is a system of disposal and recycling for lamps which is not environmentally harmful. This can be done but it requires total commitment from manufacturers, distributors and contractors alike.

Contact: Cathy Moore, Lighting Concepts.
Tel: 01 - 492 8738;
email: lights@eircom.net



Entropic – Quality Service, Quality Products, Quality Relationships

Commitment to innovative technologies, an excellent understanding of the principles of energy-efficient ventilation systems, and a close partnership with its internationally-recognised and respected manufacturers, have been key factors in the growth of Entropic Ltd in recent years.

Working closely with specifiers, installers, end-users and developers, Entropic provides technically-excellent solutions that ensure the highest levels of energy efficiency, and reduce the total cost of ownership.

Through a close working relationship with the technical teams at both Halton and PM Luft, Entropic has successfully introduced technologies such as Capture Jet™, Cooled Beams, Displacement Ventilation, Variable Air Volume and Thermal Wheel energy recovery to a wide selection of high profile projects throughout the country.

The use of Entropic's advanced selection and modelling software has enabled specifiers to reduce significantly the duration of the design phase of projects. With all data being independently verified, performance of the equipment is perfectly predictable, eliminating the risk of problems at future stages.

Contractors have enjoyed the benefits of using Entropic's equipment. The product designs have ease of installation and use at their core. Automated manufacturing techniques using robots ensure that the equipment is consistently of a very high quality, but also has the benefit of reducing overall costs of production, ensuring value for money for the user.

Building on the growing diversification of the HVAC market in Ireland, Entropic Ltd is continuing to grow steadily through its conviction to quality, price and customer loyalty.

This year will see Entropic continue to focus on reducing energy consumption in ventilation systems by combining proven engineering principles and patented designs.

Contact: Michael Geraghty, Entropic.
Tel: 01 - 610 6170; email: michael.geraghty@entropic.ie

Here Comes The Sun

Two new books from scientific publishers James & James cover solar thermal technologies for buildings and designs for solar combi-systems.

Priced at St£50 each, they are a worthwhile investment for anyone with an interest in solar technology.
Contact:
Tel: 0044 20 387 8558;
website: www.jxj.com



First Project Management Graduate Awards

Pictured at the First Project Management Graduate of the Year Awards were: (l to r) Miles Shepherd, President of the International Project Management Association; Ed Naughton, Director General of the Institute of Project Management; National Overall Winner, Dr Martina Ryan, IVAX Pharmaceuticals; and David Pells, Fellow of the Project Management Institute (USA).

Slimline Borehole Pressure Transducers



Gems Sensors 2400 slimline borehole transducers/transmitters from Manotherm Gems Sensors 2400 Series immersible pressure transducer from Manotherm has been specifically designed to meet the rigors of long-term immersibility. A custom-designed hermetic header guarantees that water cannot enter the transducer, even if the cable sheath is damaged during use.

The large bore vent tube is connected directly to the back of the sensor which provides rapid venting, even on the longest cable run. The sensor itself is impervious to the effects of water, guaranteeing long service life, even in areas of high humidity, which can cause condensation. The all-welded electronics enclosure is completely segregated from all other areas with the electronics themselves designed to provide fast switch-on and settling to ensure maximum battery life and ease of calibration.

Contact: Bob Gilbert, Noel Walsh or Robert Gilbert, Manotherm.
Tel: 01 - 452 2355
email: manotherm@eircom.net

Win a Sanyo Hi-fi Reader competition

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



January 2004 competition

- 1) Which Motorway was recently approved for a 650m upgrade?
a) M50 b) M1 c) M4
- 2) Which two Irish businessmen recently increased their share in Manchester United to over 25%?
a) Liam Lawlor and Bertie Aherne
b) JP McManus and John Magnier
c) Eamonn Dunphy and Johnny Giles
- 3) Which Formula 1 team recently launched their 2004 car called the R5?
a) Renault b) Mercedes c) Jaguar
- 4) Which 4 Star deluxe hotel near Dublin Airport has just opened its doors for business?
a) Crowne Plaza b) Travel Lodge c) IBIS
- 5) What is the 2003 official figure of the total population of Ireland?
a) 2.5m b) 4.0m c) 5.5m

Name: _____

Company: _____

Address: _____

Postcode: _____

Email: _____

Tel: _____

**Fax back to BSNews
on 01 288 6966**

Rules:
Competition open to
anyone over the age of
16.

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Grundfos Acquires Hilge Pumps

Grundfos Group has acquired the majority shareholding (94%) in the German-based pump manufacturer Hilge who specialise exclusively in the requirements of brewing, dairy, food and pharmaceuticals industries.

"This is the ideal complementary range to our existing portfolio", says Gordon Barry, General Manager, Grundfos Ireland. "By adding them to our industrial and digital dosing pumps, we can now provide even more attractive solutions to these industries which have to comply with particularly strong quality and hygiene standards."

Contact: Gordon Barry, Grundfos.

Tel: 01 - 295 44926; email" gbarry@grundfos.com

IDHE Looks To The Sun

The forthcoming IDHE evening in Dublin will focus on solar and geothermal energy with Alan Hogan from Precision Heating making the technical presentation and Xavier Dubuisson from the SEI office in Cork dealing with the broader picture and the incentives available to encourage more use of these technologies.

The date is 17 February next, the venue being Moran's Red Cow Hotel, Naas Road, Dublin. Time is 7pm for 7.30pm start.

The evening will also provide the setting for the presentation of Diploma Course Certificates to recent graduates of the IDHE/DIT Diploma Course.

Contact: Joe Newman, IDHE. Tel: 087 245 7729.

Refrigeration Education

Refrigeration Technology Skillnet will shortly launch its training schedule for 2004 and it will include courses on an introduction to refrigeration and air conditioning; fault diagnosis for refrigeration, air conditioning and electrical systems; safe handling of refrigerants; electronics and controls; and brazer approval.

However, in the meantime and because of repeated requests from members, a number of additional days training are being provided on Safepass. Details are:— Hotel Kilkenny, Kilkenny on Monday, 26 January 2004; ParkWest, Dublin 22 on Monday, 2 February 2004; ParkWest again on Monday, 9 February 2004.

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



Queens Medical Centre, University Hospital NHS Trust has a long relationship with Trane Air Conditioning. In May 1972, during the hospital construction period, Haden Young installed a Trane ABSC Absorption chiller in the Medical School. Two further ABSC absorption units were installed in the West Block plant room, serving theatres and wards, by Haden Young in June 1974. Then in 1976, two more ABSC Absorption chillers were installed in the East Block plant room. Absorption chillers make use of the waste heat from the Trust's combined heat and power plant. All of these chiller units have been under maintenance contract with Trane from commissioning to the present day. The close working relationship between the hospital engineers and the Trane service team has ensured that potential problems have been identified and pro-actively dealt with, ensuring continuity of

supply.

With modern medical procedures and higher concentrations of staff it was necessary for the Trust to evaluate its current and future chilling requirements. The initial analysis showed that increased chilled water capacity would be required and this was not possible to achieve with the existing 30-year old machines. The Trust formulated an extensive replacement plan.

With the diminishing availability of electrical power and the Trust's Environmental Awareness, the most energy-efficient means of supplying additional air conditioning had to be found. The first phase was to replace the two chillers serving the West Block with modern, higher-efficiency, larger-capacity, ABSC absorption chillers, and two new Baltimore cooling towers. Installation commenced in December 2001 and commissioning in June 2002 with Trane Service

undertaking — in partnership with the Trust — the project management for removing and replacing both chillers and towers.

The second phase was to upgrade the East Block with larger and more efficient absorption chillers, two new Baltimore cooling towers and, in addition, a Tracer Summit BMS was installed to provide control of the chillers, primary chilled water pumps, condenser pumps, cooling tower fans and provide remote monitoring. The Summit system provides the most efficient answer to power consumption and therefore running costs, and remote monitoring will enable problems to be diagnosed and dealt with before they become critical.

The East block renovation was project managed again by Trane Service in partnership with the Trust. The units were delivered in December 2002 and the commissioning completed in June 2003. Trane took the opportunity to provide the latest and largest absorption chillers available in their product range.

Contact: Maria Furlong, Trane Ireland.
 Tel: 01 - 460 6030;
 email: Maria_Furlong@trane.com

Panasonic Remote Controller

Walkair is set to introduce the new Panasonic CZ-02RT 11P controller for use with the US Split and UM VRF Range.

Intended to replace the existing CZ-01RT11P model, new features include:—

- Clock Function: 24-hour real-time clock with day of week indicator;
- Schedule Timer Function: Maximum of five actions can be programmed for each day of the week;
- Limit Operation: Upper and lower limit temperature function;
- Leave Office: Prevents the room temperature from dropping too low when occupants are out for a long period. If room temperature drops below 10°C, heating is automatically started. Once 15°C is reached, controller returns to original status;
- Button Permission Level: Three hierarchical permission levels can be set to limit user action.

Contact: Vincent Mahony, Walkair.
 Tel: 01 - 456 8070;
 email:sales@walkair.ie

Mitsubishi Heavy Industries Door-to-Door



David Beatty, Managing Director, European Freight Services pictured with Michael Clancy of 3D Air Sales (Ireland) after they had signed the contract renewing the distribution agreement between the two companies. EFS provides complete logistics support for 3D Air Sales, including freight into the country, warehousing, and subsequent re-distribution of all Mitsubishi Heavy Industries product throughout the country. "We know from customer feedback", says Clancy, "that EFS provides an excellent, professional service. Product arrives at the required destination in perfect condition, and precisely when required by the client. We have dealt with the company for a number of years and are looking forward to cementing that relationship and thereby strengthening the quality of service provided to our large customer base".

Energy-Dedicated Course at DIT

The DIT Department of Construction Skills has had considerable discussion over the past year with interested parties involved in the sustainable energy/energy-conservation industries. The discussions were wide-ranging and involved parties from Ireland and Europe.

Among the groups involved were Cork City Energy Agency; Solar Energy Center, Denmark; Sustainable Energy Ltd (Cardiff); Energy Research Group (CUD); Dublin Institute of Technology; Institute of Plumbing (Ireland Branch); Institute Of Environmental and Heating Engineers; Construction Industry Federation.

The conclusion formed after the consultative process is that there is a need for a series of courses to be offered, initially in DIT.

The topics being considered are as follows but they can be amended or extended as required — Solar Hot Water Heating; Thermal Heating; Heat Pump Technology.

If interested in attending a course in any of the above subjects, or any other subject area in the energy conservation/sustainable energy areas, then you should contact DIT directly.

Contact: Seamus Moran, Department of Construction Skills, DIT Bolton St.
Tel: 01 - 402 4017; email: seamus.murran@DIT.ie

Flexible Plumbing Connectors from Excel

Excel Industries recently introduced a new range of flexible plumbing connectors. Designed to make installation work quick and simple, they come in a range of 10 different types over three sizes — 1/2", 3/4" & 1".

They are made from stainless steel braided EPDM rubber hose and the terminations are all from nickel-plated brass which include "straight swivel", "elbow swivel", "straight compression" and "elbow compression". The compression ends are made to the Irish Standard IS/EN 1254 Part 2. The rubber hose is full-bore to allow for maximum flow. The internal bore for 1/2" is 13mm, for 3/4" is 19mm and for 1" is 25mm.

compromising quality.

Because of the high specification materials used, they are suitable for direct connection to boilers and cylinders, and dispense with the need to bend copper tubes in such tightly-restricted areas as airing cupboards and the like. They are also suitable for continuous use at temperatures of 85 °C and pressures up to 5-Bar.

Like most flexible connectors on the market they are not suitable for use with potable water. However, connectors suitable for this purpose may be introduced in the future if there is sufficient demand.

A full display board is now available showing all of the possible 10 connector types, together



The 10 possible connector types are available as standard in 500mm and 1000mm lengths and special lengths are available to order. Complete "house kits" are also available to order, which will make plumbing and heating installations fast and efficient, without

with special length specification drawings which may be obtained directly from Excel Industries.

Contact: Colm Bresnan, Sales Manager, Excel Industries.
Tel: 01- 811 8701;
email: sales@excel-industries.com

Bath Specialist Makes Big Splash



Helen Scott, The Yard's Marketing Director

A Belfast-based specialist bathroom designer, The Yard, has won two major prizes in a UK scheme for its work as supplier of some of the most expensive and exclusive

wares in the world. Based in east Belfast since 1999, The Yard has created a market niche by selling baths worth up to St£13,000 and space-age design showers, basins

and wet rooms.

"There is a fast-growing demand in Ireland for international design and The Yard is uniquely positioned to supply this demand because of distribution rights we have secured for some of the more rare and desirable designers," says Helen Scott, The Yard's Marketing Director.

"We are winning contracts in Cork, Dublin and other cities where high-value developments are underway and which require the kind of cutting-edge design and hardware we are able to provide," she says.

Contact: Helen Scott, The Yard.
Tel: 0044 2890 405 600.

Doran Joins QPL



Adrian Doran is the latest appointee to the Quality Plastics Ltd Technical Support Team. This is part of a strategic development plan whereby QPL has invested significantly in new facilities and personnel at its White Cross production plant in Cork in recent years. The appointment of additional personnel is to better serve the growing customer base.

Reversing Ozone Depletion

The link between ozone destruction and chlorine has long been established, says Derek Phelan of GT Phelan, distributors in Ireland for Toshiba. "The Montreal Protocol (1987) suggested a number of actions to be taken, including the gradual phase-out of chlorine-based refrigerants.

"The refrigeration industry has reacted by eliminating these refrigerants on a phased basis. The most harmful refrigerants have now been phased-out completely. R-22 (which has the least damaging effect on the ozone layer) is subject to the following EU phase-out dates:—

- "January 2003 — No

- more R-22 cooling-only systems to be produced or sold;
- "January 2005 — No more R-22 heat pumps to be produced or sold;
- "January 2009 — 75% cap on the production of R-22;
- "January 2016 — R-22 becomes completely un-serviceable.

"It is widely speculated that these dates will be brought forward during the next review scheduled for 2009.

"Put simply, anyone installing R-22 systems in 2004 will be prevented from working on these systems during the life of the system. The average

life of a typical split system is estimated to be between 10 to 15 years, depending on operating conditions.

"All contractors have an obligation to prevent refrigerant from escaping to atmosphere. The most common cause of leaks in split systems occurs at the mechanical joints and flared connections.

"Precautions should be taken at commissioning stage to ensure that all flared connections are leak-free. A pressure test (usually 1.5 times the normal working pressure of the system) will usually suffice, but it is recommended to leak test all joints when the system is charged and running (preferably on heat mode).

"When working on systems requiring

component replacement, refrigerant should be reclaimed and returned to the supplier for safe disposal. It may be possible to re-use reclaimed refrigerant in some cases, thus reducing costs.

"Recent data suggests that the ozone layer is gradually repairing but this should not lead to complacency on our parts. It is suggested that if all leaks were sealed and no more CFC or HCFC's were released into the atmosphere, the effects of the existing chlorine-based refrigerants already in the atmosphere would not become evident for at least 30 years".

Contact: Derek Phelan, GT Phelan.
Tel: 01 - 286 4377;
email: www.gtphelan.ie

Crowne Plaza Brings 4-Star Luxury to Dublin

The prestigious Crowne Plaza has come to Dublin with an impressive new four-star luxury hotel opening in Northwood Park, Dublin, only a few minutes from Dublin Airport. The architecture and interior is stunning, ultra-modern design and innovative use of materials such as granite, glass and mirrors creating a luxurious ambience without being ostentatious.

Arranged on four floors, the building comprises 204 guest rooms, several communal areas, a fully-equipped fitness centre, and a purpose-built conference centre.

Naturally, air conditioning is vitally important and it was a factor that Maintenance Manager Anthony McMullen gave careful consideration to during the building process. "In

my job I have to put the comfort of our guests first and balance this with capital and operating costs," Anthony explains. "I already had the opportunity to see Sanyo's air conditioning installed in another hotel and was very impressed with it. I was particularly struck by the low noise levels of the indoor units, obviously of paramount importance in a hotel."

Sanyo set about designing a single solution that could deliver the massive 756kW of cooling capacity required to air-condition all the bedrooms, conference rooms, fitness centre and communal areas. The resulting 3-way (simultaneous heating and cooling VRF) ECO Multi system was installed by Sanyo agent Crystal Air and comprised 30 SPWCR903GZH8 outdoor



The Crowne Plaza Hotel, Northwood Park, North Co Dublin

units.

Barry Hennessy, National Sales Manager at Sanyo Air Conditioning takes up the story:

"We were delighted to have the opportunity to show what the Eco Multi system can do on a large scale. As Anthony identified, our indoor units are uniquely quiet, making them ideal for hotels, but another thing that Sanyo is so good at is providing the balance between the heating and cooling needs of the guest

with the need of the hotel management to control operating costs."

Anthony was delighted with the result. "Ironically, in a hotel, if the air conditioning gets noticed you know you've done something wrong. We seem to have got it exactly right with Sanyo though. You expect some calls to reception from hotel guests asking how to operate it but we are still waiting. We couldn't be happier."

Contact: Barry Hennessy, Sanyo. Tel: 01 - 456 8910; www.sanyoaircon.com

Systemair Acquires Fans & Spares

Fans & Spares — which is claimed to be the oldest fan distributor in the UK and is one of the oldest in Europe — has been acquired by Systemair. Founded in 1954 by Mr Wood, it celebrates 50 years in business this year.

The acquisition will help to increase Systemair's market share in the UK and will also help to strengthen its position in Ireland. It is part of the company's overall strategic plan to grow market penetration, both organically and through acquisition, throughout Europe.

Systemair currently exports to over 60 countries with annual turnover in the region of €230 million. Combined with substantial re-investment and a continual programme of research and development, Systemair remains competitive and intends to remain at the forefront of new technology introductions.

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

Vision of the Future ... From the Past

Contemporary often conjures up images of a product designed to fulfil the needs of today's market. But, how do you describe a product that has always been contemporary yet was created in the sixties? The Vola range of taps and mixers from Shires Ireland faces that particular dilemma.

Designed and developed by architect Arne Jacobsen in the early sixties, the range won international design

awards as soon as it went into production. Today, nearly 40 years later, it is still receiving distinctions for its chic, functional and versatile look.

The mixers, taps and accessories are made from the very best of materials, solid brass and gun metal being the main primarily used. The range is available in polished or brushed chrome, natural brass, or a choice of over 18 colours.

Contact: David Barry, Shires Ireland Ltd. Tel: 01 - 404 7600.

Lack of Coherent System for Electrical Safety



Jim Rice, Chairman, RECI with Phillipe Andre, President, Fisuel; and Thomas Gomez, Certiel, Portugal

Fisuel, the International Federation for the Safety of Electricity Users, held one of its regular meetings in Dublin prior to Christmas. The Federation is registered in France and its membership consists of electrical regulatory and safety organisations from various European countries. Its purpose is to:

- Help those who wish to set up an inspection system;
- Improvement and progress for members who already have an inspection system;
- Lobby for improvement of electrical safety and for improved compliance with standards, both in new and renovated buildings.

There is a lack of a coherent system for electrical safety in Europe with inspection and regulation systems varying from country to country. It is estimated that something like 70 million existing houses do not meet safety standards.

RECI, who are members of Fisuel, were

hosts for the meeting which was attended by delegates from Germany, Angola, Ivory Coast, Spain, Norway, France, Britain, Lebanon, Portugal and Poland. Irish delegates representing RECI, ETCI, NSAI, ESB, ECA and the AECI also attended.

Apart from a number of papers describing conditions and initiatives in other countries, Fisuel President Phillipe Andre described the progress of the organisation to date. He also referred to two important projects which are currently underway.

- It is intended to set up a monitoring centre for safety of electrical installations. The centre would draw up details of electrical safety practices in each country and produce a report of "best practices". It will serve as a point of contact for exchange of information;
- Publish an electrical safety manual which describes the basic safety requirements for installations and how to carry out inspection and testing.

'Quality and Reliability' — Pumps from Potterton Myson

Potterton Myson's pump range is extensive, offering all manner of pumping solutions across the entire building services spectrum. Range details are as follows:—

The "Compact" range of domestic heating circulators offers the installer assured reliability, high performance, and ease of installation for all domestic heating systems.

Special features include: 3-speed pump with a static head range of 2-6 metres; Manual re-start knob; Large terminals with clearly-marked captive screws; Automatic vent on initial start-up; Motor head can be replaced or repositioned without moving the pump from the system.

Uniquely, all compact pumps are guaranteed for 30 months.

The "SE" pump range offers a comprehensive selection of pumps as cast iron light commercial circulators, or secondary hot water commercial circulators.

The "SE" pump range has a host of special features

and is available in 1 1/4", 1 1/2", or 2" as cast iron, and from 1" up to 2" in bronze.

Using disc induction motor technology, these pumps deliver a high ratio torque for effortless low speed start-up.

The use of a single static "O" ring seal eliminates the need for time-consuming, routine seal maintenance.

In addition, Potterton Myson offers a range of high-performance shower pumps for boosted water pressure called Aquaboost.

With a specialist team of field and in-house technical engineers to take customer queries, Potterton Myson has been providing expert advice on specification and installation for 30 years. Full after-sales service and spares are available, and these are complemented by the company's unique training facility which is located at its headquarters on the Belgard Road, Dublin.

Contact: Potterton Myson.
Tel: 01 - 459 0870;
Fax: 01 - 459 0880;
email: post@potterton-myson.ie

Air Movement & Air Quality

Next month's product focus is on air movement and air quality.

Traditionally, this issue is over-subscribed.

To insure inclusion for advertising and editorial call:—

Joe at 01 - 288 5001

EHS

Eurofluid Handling Systems

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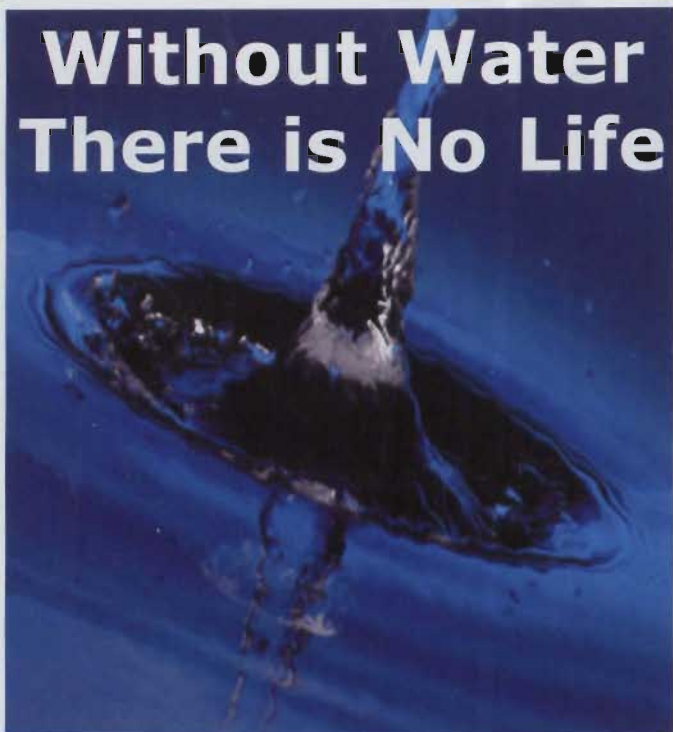
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email: eurofluidstephen@eircom.net

web: www.euro-fluid.com



Last year was the world Year of Fresh Water. For Wilo, as a pump manufacturer, water also plays a tremendously important role. The Wilo Stratos transports water with high efficiency. Water is not only an essential requirement for our existence, it also forms the landscape, refreshes the senses, transports goods and people, and provides us with warmth and comfort in heating systems, *writes Tony Cusack, Managing Director, Wilo Engineering.*

Water also offers a wide range of highly-efficient means of producing energy. A particularly current topic in this connection is the fuel cell, which uses hydrogen as the energy-producer.

Power can be produced directly from hydrogen and oxygen by converting chemical energy into electrical energy. The waste product of this reaction is water. This is made

possible by the fuel cell, which was invented 160 years ago, and is now enjoying its great come back.

The first fuel cell was made by the English naturalist Sir William Grove in 1839. However, it proved extremely difficult to develop his idea further into a viable and reliable source of energy. The measurable voltage was too low, and the fuel cell could therefore not compete with inventions such as the electric dynamo or the internal combustion engine.

So, Grove was neglected for almost a century, collecting dust in theoretical papers about galvanic elements. Fuel cell technology was not rediscovered until the 1960s when NASA used the principle for the on-board power supply in its Apollo project. Since the 1960s this technology has been consistently developed further.

By the year 2015 energy experts expect the proportion of decentralised energy production to double, from the current 15% to around 30%. Energy suppliers think that by this time up to a third of this energy could be produced by fuel cells.

The fuel cell has also found its way into the basement heating system. Over 400 highly-qualified experts are currently working on the development of the new technology. Vaillant and its key partners aim to have over 400 test systems on trial throughout Europe by the end of this year. Fuel cells produce electricity and heat directly from hydrogen (H_2) and oxygen (O_2), by converting chemical energy directly into electrical energy, without any intermediate thermal or mechanical steps. The only "reaction product" created is water.

The fuel cell is similar in design to a conventional battery, consisting of two electrodes (the anode and the cathode) and an electrolyte. Hydrogen is fed continually to the anode, and oxygen to the cathode. The electrolyte acts as a sort of separating barrier between the two electrodes, and ensures that the oxygen and hydrogen do not come into direct contact with each other.

Only the positively-charged hydrogen ions ($2H^+$) penetrate through the barrier, after each hydrogen atom has given up one electron at the

anode. These electrons take a detour via an external electrical circuit, thereby creating an electrical voltage similar to the voltage created between the two poles of a normal battery. The oxygen atoms at the cathode take up these electrons (O_2^-) and then draw the hydrogen ions through the membrane. Without any further emissions, this reaction between $2H^+$ and O_2^- creates H_2O - water. The hydrogen needed for the operation of fuel cells is currently obtained from natural gas by means of a reformer integrated into the equipment. The CO_2 emissions created are considerably reduced by the high level of efficiency in comparison to conventional energy conversion, if the fuel cells are operated with power-heat coupling.

However, producing and storing hydrogen is not an easy task.

Conventional steam reforming (natural gas) is not necessarily ideal for the production of large quantities of hydrogen. This can, however, be possible as a starting point, for example in automotive applications. Some processes for hydrogen production have in the meantime been developed up to the point of commercial viability, while others are still in the development stage - from oil gasification via the fermentation of bio-mass to the production of hydrogen from plants.

A further problem is how to store hydrogen in large quantities.

Contact: Tony Cusack, Managing Director, Wilo Engineering.
Tel: 061 227 566.
email: sales@wilo.ie

Rising Energy Costs?



A drain on your profits?

Energy is the life-blood of your company and you can't afford to waste it but so often inefficient pumps and fans are pouring your profits down the drain.

Danfoss VLT® 8000 Aqua pump-specific variable speed drives can reduce your energy bill by up to 70% and enhance control over your processes making them more efficient too. With customer-driven features like multiple-pump control, dual-speed control inputs, pump alternation, and energy optimisation, Danfoss drives are designed for optimum pump system performance.

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IF YOU THINK GRUNDFOS
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...THINK AGAIN
WE'VE GOT IT ALL COVERED



GRUNDFOS 

Europak Customised Packaged Pumping Systems

Operating out of a purpose-built facility in Ballymount, West Dublin, Eurofluid Handling Systems offers total solutions on pumping applications to both the design engineer and the mechanical contractor.

With a combined total of over 50 years pumping experience, coupled with a flexible approach to the manufacturing process, Eurofluid can assist in plant selection through to final supply and commissioning.

The advances made in pump system design

incorporating frequency invertors and plc controllers are included as standard on the packaged equipment manufactured by Eurofluid under the "Europak" name.

This range includes:

- mains water packaged booster sets;
- fire hose reel booster sets;
- oil transfer pumpsets;
- condense recovery sets;
- pressurisation equipment;
- packaged hot water transfer sets;
- packaged steam/water transfer sets.



Grundfos Hydro Multi-E innovative pressure booster systems for residential buildings, available from Eurofluid Handling Systems

Prestigious projects Euro Fluid has been involved with include: Wyeth Medica; MFN; Croke Park Re-Development; Medtronics, Galway; Allergan, Westport; K-Club, Kildare; Cork Maternity Hospital; Dublin Airport; Trinity College, Dundalk IT; Mahon Shopping Centre, Cork; Crowne Hotel, Santry, Dublin; North Tipperary County Council Offices; Office Development, Adelaide Road, Dublin; Port Tunnel; Citywest Hotel Development; Parkwest Office Development; Docklands Development; Microsoft; State Labs; Our Ladies Hospital; St Vincents'

Hospital; Pepsi Cola.

With the support of major suppliers like Grundfos Pumps (for whom Euro Fluid is a major distributor), Sondex Heat Exchangers, ACV Hot Water Generators, Armstrong Pressurisation, Flamco Pressurisation Air/Dirt Separation — and continued investment in modern technology — Eurofluid will consolidate its dominant position in the marketplace, and continue to supply quality equipment.

Contact: Bernard Costelloe, Eurofluid Handling Systems.
Tel: 01 - 460 0352;
email: eurofluid@eircom.net



Europak/Grundfos Hydro 2000 variable speed electronic pump set from Eurofluid Handling Systems

Rolls-Royce Saves With Danfoss

Electricity prices are trending strongly upwards and energy efficiency is once again on the agenda of energy-conscious companies like Rolls-Royce. At its aero engine plant in East Kilbride, near Glasgow, Rolls-Royce has realised substantial energy savings, eliminated a potential safety hazard, and simplified the installation of one of its aero engine test dynamometers, by the simple adoption of variable speed control to the test-rig water supply pump.

Following repair or maintenance, Rolls-Royce Dart and AE2100 series gas turbine aero engines are load-tested on a hydraulic dynamometer test-rig which is fed by a 55kW fixed-speed pump, previously with simple star/delta start-up. The demand for water during test cycle must be maintained at a constant volume and a valve-operated bypass loop was employed to regulate the water pressure to the dynamometer. This was not only inefficient from an energy point of view, but created a number of other problems.

The pressure surge as the pump motor switched from star to delta connection on start-up created sufficient physical stress to distort feed hoses and create water leaks in the ABS

pipework joints. Special clamps had to be designed and fitted to the supply pipes to alleviate this problem and fears were expressed over safety issues associated with the installation as it stood.

Following consultation with, and a site survey by, local Danfoss systems specialist Fraser & Macdonald, it was decided that the controlled acceleration and deceleration characteristics of variable speed control would eliminate the problem and save considerable energy by running the oversized pump at reduced speed.

Calculations indicated that the energy savings alone would recover the overall cost of the refit in less than two years. Fraser & Macdonald contracted the project on a turnkey basis as time was critical to Rolls-Royce, since the refit had to be completed during a two-day maintenance window between scheduled engine tests.

A 55kW Danfoss VLT 6000 series IP54 drive was wall mounted in the test bay and the water bypass circuit was shut down. Installation was completed on day one and commissioning was completed on the second day with no loss of engine test time. The drive now accelerates the pump over 30 seconds,



Rolls Royco chose Danfoss variable speed control to boost energy efficiencies

runs at an efficient pre-set 39Hz — a speed identified by experience — and decelerates over 50 seconds, completely eliminating water hammer in the system.

The water supply system has been considerably simplified with the closure of the water bypass circuit and the elimination of the star-delta starter. The savings on pipework repairs and general maintenance are a bonus, in addition to the substantial energy savings achieved. Power consumed by the pump has been reduced to 25kW at 39Hz maximum speed with greater savings to be had on lower power engine tests, saving at least a demonstrated St£2900 per annum.

The installation also qualifies for the Enhanced Capital Allowance, further shortening payback time, and engine test productivity has been enhanced due to the elimination of recurrent pipework and valve

damage, and the subsequent down-time.

Alex Dunn, Test Facilities Engineer, told *BSNews*: "We recognised that substantial energy savings could be made by installing a VSD on this pump but the safety and production implications were equally important to us. The local support available from Fraser & Macdonald and the availability of an IP54 model drive, which could be installed in the test bay without an additional control cubicle, were determining factors in deciding on a Danfoss drive for the application. This refit has addressed all the safety concerns we had, the system is running perfectly, and the projected energy savings are being achieved. Obviously, we are completely satisfied with the new installation."

Contact: Bruce Higgins, Sales Manager, Motion Controls, Danfoss Ireland Ltd.
Tel: 01- 626 8111;
E-mail: marketing@danfoss.ie

Updated Grundfos CR Range Offers Wider Choice

Grundfos was the first manufacturer to design a multi-stage centrifugal pump. Continuously updated and improved since then, the current CR pump range is the most sophisticated and comprehensive yet.

Known as the CR 10, CR 15, and CR 20, the new medium-sized CR pumps narrow the interval between pump sizes even further. The superior technology and innovative design already used in the small and large CR pumps have now been implemented in the medium-sized range, thereby doubling reliability and making the full CR range extraordinarily economical.

According to Gordon Barry, Grundfos Ireland General Manager, the new features incorporated in the latest range came about as a consequence of direct dialogue with customers.

The changes include

the introduction of a unique cartridge seal, specially developed by Grundfos. "We know that seal replacement has been a major problem for many owners of multistage centrifugal pumps," says Gordon, "and so, to help our customers avoid this, we placed all the seal components within a single cartridge unit. This makes the seal more reliable and hard-wearing than ever and, when the time comes, it can be replaced in minutes."

Statistical evidence shows that damage from dry-running is the reason for one out of four multistage pump failures. The shaft seal and bearings are particularly unforgiving if the flow of liquid into the pump stops. "We devoted a lot of effort to eliminating the dry-running problem," says Gordon.

Reliability can be improved in many ways, for example by always

using the right materials for the task. That is why CR pumps come in several basic material options to suit their intended use – AISI 304/cast iron and all-AISI 304 stainless steel for water and non-corrosive liquids; and all-AISI 316 stainless steel for aggressive liquids. Grundfos can even supply CR pumps made entirely of titanium for particularly demanding situations.

All CR pumps are made to last, so the benefits they offer can take a long-term perspective. "We should always bear in mind that electricity accounts for a full 85% of the cost of owning a pump – the purchase price and maintenance share the remaining 15%," says Gordon. "So, it makes sense to choose the most efficient pump you can find. By focusing intensively on hydraulic design and applying the laws of fluid dynamics, Grundfos has boosted pump efficiency to the highest level on the market today. This can translate into many thousands of kilowatts saved per year".

Automatic regulation of motor speed can be an advantage in many situations. Hence the Grundfos CRE range which incorporate an integrated frequency converter which automatically regulates

motor speed to suit the current situation.

Also, while most customers can easily find their ideal pump among the pre-defined CR variants, some need other solutions. To help this customer group, Grundfos has adopted a "mix-and-match" approach to pump making. Grundfos wanted to provide maximum choice and adaptability without forcing customers to choose the expensive option of having a custom-built pump made from scratch. "We looked at all the elements that make up a CR pump," says Gordon, "and then we decided to give our customers the choice of combining them to create the pump that they want, without any restrictions."

Faced with so much choice, some customers might find it slightly daunting to choose exactly the right motor, steel grade, seal system, and bearings to match their needs. After all, Grundfos' approach to customised pumps brings the potential number of different CR pumps up to more than one million. "That's not a problem," Gordon reassures. "Just ask us! We'll be happy to pick out the right pieces for you."

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



"Not even a decade of full immersion in salt water will leave a blemish on the titanium surface."

100mm height areas without the need for a riser!

Guys, think of
the time, hassle &
money you'll save.
Check it out!

● UNBEATABLE 100mm HEIGHT
ADJUSTMENT (No riser required
for most jobs)

● IMPROVED TILT CAPABILITY

● ADVANCED FLOW
CHARACTERISTICS

● WIDEST RANGE

● FULLY CONFORMS WITH
ALL TECHNICAL REQUIREMENTS
OF BUILDING REGULATIONS

Despite all these extra benefits, the MFP AJ
still costs less than its nearest competitor
– so next time you're looking for the widest,
most advanced range of AJs in the country,
just ask for...

The NEW GENERATION AJ from



MFP Sales Ltd.

Quality People Producing Quality Products at Quality Plastics

Quality Plastics Ltd (QPL) was established in 1970 and has been producing quality plastic goods for the construction, agriculture, and plumbing and heating sectors since then. Right from the outset the emphasis was quality, the high-calibre product range being matched by the professionalism with which it was brought to the marketplace.

Continuous investment in research and design and state-of-the-art manufacturing equipment led to many industry "firsts" for QPL.

Today, more than 30 years later, it is still pioneering new and innovative solutions to meet the industry's ever-changing needs.



Karen Horgan, Commercial Director; with Gary Horgan Sr, company founder; and Gary Horgan Jr, Managing Director, Quality Plastics Ltd

In the last couple of years alone more than €5 million has been invested in plant and equipment.

Employment now stands at 150 with the majority based at the company's purpose-built production, distribution and sales premises in Cork. Complementing this set-up is a team of six regionally-based sales representatives, and three technical sales representatives,



Internal Sales — Richard O'Leary with Maura Murphy, Brendan O'Brien, Sales Director; and Gillian O'Leary

guaranteeing the highest level of service throughout Ireland.

Furthermore, a dedicated UK sales and distribution centre in Corby, Northamptonshire, was opened two years ago to serve the UK market. In less than two years this has grown into an 10-person strong business.

Quality Plastics Ltd has led the field in the manufacture of high and low density polyethylene piping and polyethylene damp proof course since its foundation. Laboratory facilities within the company ensure careful control of the quality of the entire product range. This facility also researches the feasibility of new product lines.

One of the most recent and successful products is the Qual-PEX barrier pipe. Qual-PEX is a tan-coloured, crosslinked, polyethylene plumbing pipe which was specifically developed, tested and approved for hot and cold water services, central, and underfloor heating systems. It is designed to suit push-fit and brass compression fittings and manifolds, and is flexible enough to be cabled through awkwardly-placed holes under

flooring and threaded behind partition walls and ducts.

Qual-PEX is unique in many respects :—

- ☐ It is the only plumbing pipe now being manufactured in Ireland;
- ☐ It is the first PEX pipe in the world to receive the BS 7291 kitemark, a necessity for scaled CH central heating systems;
- ☐ It is the only thermoplastic pipe with IAB approval for use with pushfit fittings.

Qual-PEX is also available with an EVOH oxygen diffusion barrier layer sandwiched within the walls of the pipe. This protects the layer from physical and UV damage and renders the pipe virtually impervious to gases. It also improves the performance of sealed central heating systems.

In 1996 the Qual-PEX Underfloor Heating Department was set up at QPL. This has grown to a workforce of eight, dealing with quotations, queries, design and technical support, both in-house and on-site. The service provided by this department includes design and supply of the system (via a Qual-PEX pipe stockist) which is then installed by a



Underfloor Heating — Vincent O'Mahony with Tomás Holland; Julie O'Donovan; Neil Nagle; Glen Kenneally; and Peter Howard



Ireland Sales Team — Flor O'Brien with Trevor Carew; Billy Dowling; Martin Sweeney; Paschal Troy; and Tony Fennell



Technical Sales — Jim Delaney with Tony Kinsella, Technical Sales Manager; and Declan Hourigan. Absent is new colleague Adrian Doran



Export Sales — Fiona Cusack with Ronan Lefu, Export Sales Manager

heating contractor.

At QPL, the heating engineers design a system to meet the client's requirement by working in conjunction with them. From in-putting the key factors into a specialist software package, QPL can determine each zone's/room's heat requirements to achieve optimum comfort levels. QPL supplies the complete range of components (insulation and boiler excluded) to ensure that the installation is completed and operated efficiently and cost-effectively.

QPL has also devised a revolutionary new way of controlling underfloor heating systems.

The key to operating an efficient system without the fluctuating ambient temperatures is to forget about intermittent circulation, which applies to conventional heating systems, and instead have a constant water circulation through the floor structure.

QPL's Automix Series of controllers is claimed to be unique. An electronic programmer is positioned within an index room of the rooms to be heated. This programmer calculates the proper heat output required and continuously resets the mixing valve and thus water temperature. The mixing valve is the most important link between the boiler and the heat distribution system, i.e. the floor, and therefore, by continually adjusting the mixing valve setting to suit internal heat requirements, QPL can provide the most efficient and comfortable

underfloor heating system possible.

The overall QPL portfolio includes a diverse range of related and complementary products. What they have in common is that many are innovative; all are manufactured to exacting tolerances and standards; only the finest-quality materials are used; manufacturing techniques and production machinery are state-of-the-art; and the personnel who produce them are highly-motivated, experienced and fully-qualified.

Not surprisingly, QPL holds many quality control certificates, including:— ISO 9002; KIWA; Danish Standard (DS); Irish Standard Mark; British Kite Mark; Irish Agreement Board Certificate; B.B.A.; CSTB, France; LNE, France; NSF International, USA; and Aenor, Spain.

As the foregoing implies, QPL now serves an ever-expanding international customer base with new countries coming on stream at an accelerating rate. That said, QPL is still firmly focussed on the home market and now, with new product additions set to be unveiled (see www.qpl.ie) over the coming months, is set to further strengthen the scope and quality of service provided to its nationwide network of stockists.

Contact: Karen Horgan, Commercial Director, Quality Plastics. Tel: 021 - 488 4700; email: karen.horgan@qpl.ie

Get A Rise Out of This ... And Go Underground

MFP has introduced its new generation AJ, with a unique and revolutionary built-in height adjustment of 100mm. The 2-piece telescopic AJ is completely watertight and eliminates the need for unnecessary risers, which require timely measurement and cutting to size. Made out of the highest quality PVCu, and designed to satisfy the most demanding on-site situations, MFP's new AJ will save time, effort and money.

MFP is one of Ireland's leading producers of quality plastic building products for the construction industry, public utilities and local authorities. Continuous product innovation and development have led to the introduction of the widest

range of Access Junctions in the country.

This latest innovation is available immediately from hardware stores nationwide and fully conforms with all building regulation technical requirements.

Dudley Foster, Director of MFP, says of the new AJ:

"Our objective was to design an AJ that would deliver versatility in almost every on-site situation, no matter what the requirements. Our customers need the flexibility to work without the constant need for risers and couplings, which slow down the process. Our new AJ has overcome this with the 100mm telescopic extension, yet it is still less expensive than traditional AJs offered

by our nearest competitor."

As well as the telescopic extension, all AJs in the MFP range offer an improved tilt and rotate mechanism, with a gradient of 1:16. This

facilitates alignment with uneven paving and rotation to fit the angles of buildings and footpaths.

MFP's comprehensive range of rainwater, soil and waste and underground drainage systems — all conforming to the relevant national standards — provide drainage suitable for all types of buildings.

Domestic, industrial, commercial, public ... MFP can meet all the drainage demands of modern construction.

With years of experience in the design, development and manufacture of PVC-u drainage systems, MFP can justifiably claim to be a leading supplier of quality piping products to the construction industry.

Quantum Technology is the optimum plastic material for use in underground drainage systems. Strong, efficient and light to work with, it is marketed in Ireland by MFP. PVC-u twin-wall manufacturing process, combined with a corrugated outer wall

with a smooth inner bore, gives Quantum strength, hydraulic efficiency and lighter weight than comparable products.

Thoroughly tried and tested, Quantum has been awarded the BBA Certification, as well as the Water Industry Product Assessment Mark of Approval, and the BS EN 29002 qualification.

Two versions of Quantum are available — one for highway drainage and one for adoptable sewers.

The Multikwik Push-Fit Rainwater Adaptor connects square and round (65mm/68mm) downpipes to standard 100mm pipes. No solvent weld is required, just a simple push fit. Additionally, tests have shown that the joint has withstood over 0.5m head of water, far in excess of the requirements of the application.

The Multikwik Rainwater Adaptor (MKRAB) follows closely on the heels of the Universal Adaptor which has seen great success in Ireland since its launch.

Contact: Dudley Foster, MFP Sales.
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email: sales@mfp.ie
web: www.mfp.ie





Quality **Plastics** Ltd

Quality Plastics Ltd

Ireland's leading polyethylene pipe manufacturer and
number one underfloor heating company

Qual-PEX and Qual-PLAST brands and accessory products



P.O. Box 29, Whites Cross, Cork
Tel: 021 - 488 4700 Fax: 021 - 488 4701
email: qpl@qpl.ie
www.qpl.ie

Celebrity Lunch Honours Taylor

Herbert Taylor of Glamox Ireland was the guest speaker at the CIBSE Celebrity Lunch held prior to Christmas in Satchels Restaurant in Dublin. Herbert has served the CIBSE — and indeed the building services sector at large — for many years in various capacities. The

tables were turned somewhat on him on the day as CIBSE Vice-President David Hughes availed of the occasion to present him with a CIBSE certificate to mark his contribution to CIBSE affairs. Our photographer was also present to capture some of the atmosphere.



Alan Callister with Declan Kissane



Herbert Taylor receiving his certificate from CIBSE Vice-President David Hughes



Dave Doherty with Noel Coyle and Brian McPhillips



Brian Fagan with Gearoid McKenna and Paul Sammon



Albert Byrne with Don Byrne and Jonathon Fisher



Brian Sterling with Michael McDonagh



Michael McNerney, CIBSE Republic of Ireland Branch Vice-Chairman with Herbert Taylor; David Hughes, CIBSE Vice-President; and Kevin Tracey, CIBSE Republic of Ireland Branch Chairman



Damien Byrne, Technical and Business Development Manager, Ardline Aircon

Come Bask in Ardline Sunrise!

Hitachi needs no introduction to the building services industry given that it has been instrumental in spearheading technological innovation in climate control for almost 50 years. Ardline Aircon also has extensive air conditioning and refrigeration experience with principal directors who already run successful independent ac and refrigeration installation operations. That the two should come together was a natural development.

The name "Hitachi" literally means "sunrise", reflecting the founding philosophy of contributing to people and society through technology. This has helped Hitachi become one of the world's largest corporations with an annual turnover of more than €75 billion, a vast range of over 20,000 products, and more than 300,000 employees worldwide.

Ardline Aircon was formed by the directors of REL, Coolrite and General who are long established in the refrigeration business. It is a stand-alone distribution operation with a dedicated team of sales, marketing and logistics personnel with

Damien Byrne, Technical & Business Development Manager, at the helm.

"My responsibility", says Damien, "is to provide all Ardline Aircon customers with the best, most energy-efficient and cost-effective solution to their climate control needs by offering a top-quality product, coupled with the highest quality installation. That this is provided via an approved installer network whose engineers are fully qualified and thoroughly trained is essential.

"We already have a number of strategically-located installers and authorised agents throughout the country but have yet to complete the full nationwide network. Those coming on board as our trading partners have got to meet and comply with certain criteria, all of which were devised to ensure advanced technical awareness and installation excellence. In essence, it is all about applications engineering.

"For our part we offer a comprehensive support package which includes regular technical and sales

seminars; marketing support at national and local level; access to our own and Hitachi's technical and design resources when devising solutions; assistance in meeting configuration, performance and budget objectives; delivery schedules which ensure product arrival precisely when required on site; informative product and technical literature; ready access to Hitachi manufacturing, engineering and research centres; computerised product selection programmes; and a dedicated Irish office.

"Despite the wealth of experience and expertise Ardline Aircon and Hitachi represent, the partnership is young, fresh and dynamic. It is forward-looking and progressive, the Hitachi 'Inspire The Next' slogan being equally applicable to Ardline Aircon.

"We are currently in the process of completing our dealer network but there are still opportunities in certain areas for those who can meet the demands of this market.

Register your interest by email to info@ardlineaircon.ie.

Register of Environmental Gas Installers

Gas Installers — Beware Road Rage!

By its very nature the domestic gas installation business is stressful. The more successful the company the more pressure the individual operatives are under. The common scenario is one of having to be in three different places at the same time.

Further complicating the issue is the intolerable traffic congestion. It is bad enough rushing from place to place without having to endure the frustration of a road infrastructure which is totally inadequate to cater for the volume it must serve.

The result can be extreme frustration and even agitation. If you are an employer with a team of operatives constantly traversing the congested streets of Dublin and the other major population centres, be understanding when they are delayed; If you are one of those stressed-out operatives take a deep breath, relax, some things you just have to live with; if you are a consultant or end-user awaiting service, be considerate.

New Legislation Required

The domestic gas heating industry is constantly fighting a battle against DIY and uncertified installers who face no restrictions when it comes to purchasing gas appliances. Very often they can access gas boilers and appliances at very competitive trade prices and from supposedly trade-only outlets.

Obviously, manufacturers and distributors of such appliances are directly in the firing line when something goes wrong, as it invariably does. They are the name on the appliance and it is their name which gets the bad publicity when, in all too many cases, the problem is not with the appliance at all but with the installation. Very often they also have to handle the call-out and incur the costs involved in correcting shoddy workmanship.

Manufacturers and distributors run training schemes for bona-fide installers. They also offer technical support on applications suitability and installation best practice. However, this

is ineffective if their products are freely available to non-qualified, non-accredited, incompetent installers.

Against that background REGII would like all manufacturers and distributors to work with them in ensuring that the sale and distribution of all domestic gas appliances are channelled through conscientious, professional trade outlets who only supply to fully-qualified, certified installers.

Controlling Payments & Minimising Losses

Virtually every installer has suffered from late payments for projects, shortfalls in payments, and even non-payment in some instances. In an industry where margins are tight enough as it is, it is vitally important that all monies owed are collected according to a previously-agreed, signed schedule. "Some customers are well practiced in milking a situation", according to REGII Chairman Kevin

Farrelly. "The current TV fashion for highlighting rogue traders who rip-off customers is very welcome but, the implication in many cases is that all traders, especially in the domestic plumbing and heating sector, are incompetent chancers. This is not the case. Moreover, no one has yet made a TV programme about unscrupulous customers who use every trick imaginable to avoid paying for work completed." Kevin's advice to all installers is to:—

- Begin by giving a detailed written specification to the customer;
- Provide a written quotation in accordance with that specification;
- Get this signed and witnessed;
- Ask for a 15%/20% deposit before commencing the work;
- Ask for a further significant payment when the work starts;
- Discuss cost implications of deviations/changes before doing them;
- Ask for the final payment due on completion of the job.

SETTING STANDARDS



Workplace Lighting

By Mr Bob Venning



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One of the things that has always puzzled me is how lighting codes, guides and standards are produced. I read *Lighting Research & Technology* to keep up to date with the latest research findings and thinking of eminent lighters and researchers.

Over the past two decades there have been some very interesting results, which could easily be transferred into applications, through the medium of codes and guides, but they have not. Why? I can't answer that question! I don't know why.

But what worries me is that we are now seeing the publication of European standards, [EN 12464-1 2002] which are no longer advisory. What is the basis for these standards? Do they reflect current thinking? Are they, "same as before"? Is there anything new?

During the past decade or so there has been an increasing understanding of the way the visual system works. The role of the

non-imaging system in determining our feelings of alertness, concentration and general well being has a measure of agreement among those working in the field.

It is too soon to convert this knowledge into applications and guidance documents, but there is other research, which has been proven by different research teams, which can be more generally applied and would prove useful to the occasional designer. But it hasn't been adopted!

Sustainability, conservation of fuel and power, visual comfort and healthy lighting are replacing horizontal illuminance, glare and uniformity as the key lighting criteria. An understanding of what they mean and how to apply them for the benefit of the end user is what is exercising the minds of designers. Task illuminance has served us well, but the new workstation is partly self-illuminated. The task can be changed in terms of size and contrast to suit the user's preference; no longer do we have to read the fifth carbon copy of a letter!

We are told that for visual comfort at least two components of lighting are preferred, that the important zone is the 400 cone of

vision from the point of view, and that the luminance in that zone is important. Have these ideas infiltrated the codes and standards?

Against this background the Society of Light and Lighting has decided that now is the right time to explore what we do know about "workplace lighting" and compare the experiences of a wide cross-section of the lighting community including researchers, manufactures, designers, owners and occupiers, contractors and users. This process will commence with the forthcoming SLL international symposium on the subject which will take place in DIT, Kevin St, Dublin from 1 April to 3 April 2004.

At the end of the papers session we are going to debate some of the key points which emerge from the papers and discussions. This will hopefully provide us with either confirmation that the standards are right, or that there is a lot of new knowledge, which the standards do not reflect. If the latter is the case then the joint committee of members of the Society of Light and Lighting and the Lighting Industry Federation will act as a focal point for producing recommendations and

for lobbying for change.

This International Symposium has attracted leading industry speakers from all around the world who are coming to Dublin to take part in this important event. Hosted by the Republic's regional committee of the CIBSE, this is an opportunity for everyone to take part in, and contribute to, the debate on workplace lighting. Your experiences could be a vital part of the discussions.

If you are a student at the DIT and are interested in this event then see your course tutor and he will arrange for you to attend the technical sessions absolutely free.

**Bob Venning is a Diploma Member of IES UK (1969); a Chartered Engineer; Member of CIBSE; Fellow of The Society of Light & Lighting; Past President of the Society of Light & Lighting; Past Vice-President of CIBSE. Bob has worked with Ove Arup and partners for 30 years and is an Associate Director and a leader of the recently-formed Arup Lighting. He has been involved with lighting design for the past 36 years, working in UK, Europe, Africa, Asia and North America. Projects have included The Royal Opera House; The Thyssen-Bornemisza Gallery in Madrid; Deutsche Bank Tokyo; PA centre New Jersey; The Charles Danfort Plant Science Centre.*





Thomas Nugent, DIT Kevin St. Email: thomas.nugent@dit.ie

From Billy Connolly to Walt Disney

ELECTRICAL SERVICES ENGINEERING

Introduction to E-Learning

Let me tell your fortune — “In the near future you will be doing courses, learning and getting qualifications via the internet”. This is referred to as “e-learning” or “distance learning” (DL). As you read this article I hope that you will be achieving distance learning. I am in Dublin, and you are learning at some distance, regretting that you are not here also?

Formal distance learning has a long history and in 1858 the London University offered its first External Degree Programme for overseas students. The University of Queensland initiated their external degree programme in the 1890s and later incorporated radio communications to support student learning. The Open University very successfully started using television as its medium in the 1970s.

The latest teaching and learning medium is the World Wide Web. This is the medium that has enabled the creation of the “Virtual Learning Environment” (VLE).

The VLE attempts to simulate, via the internet, all of the conditions that exist in a real learning situation. It incorporates the following:—

- The teacher delivers the information to be learned and the students have notes on the information and other relevant material. The notes and information can now be made available on the Web for the students to access and download;
- The students publicly ask the teacher a question and the teacher, or another student, answers the question publicly.

Alternatively, the student privately asks the teacher, or a fellow student, a question and it is answered privately. This can be achieved

within an email system restricted to members of the course;

- Students and teachers chat informally about the subject matter. This is achieved through an e-mail chat room restricted to members of the course;
- Students do self-assessment and final grading tests. These can be done online with the student getting instant results on their self-assessment and only the assessor getting the results of the final grading test.

The challenge for teachers to adapt to this new medium is much greater than for students. Typically, campus-based students — on seeing what their distance-based counterparts are being delivered of — are demanding access to similar e-learning facilities. Teachers, therefore, have to change their traditional skills of

oratory and board work to high-tech presentations, while still retaining all the pedagogical features of traditional teaching. For me it is like trying to convert from being Billy Connolly to Walt Disney. Obviously, change of this magnitude causes a great deal of upheaval and anxiety for educationalists and, because it is all so new, there are no perfect role models in the field. I would therefore appeal to you to be supportive of us as we endeavour to come to terms with a whole new teaching paradigm, and you adapt it to suit the teaching and learning of electrical services engineering.

Next month I hope to give you an account of the DIT's efforts to develop this learning technology and my personal adventure as I try to adapt and employ the magic that is e-learning to suit the industry's needs.

Light-emitting Diodes With Creative Potential



Light-emitting diodes (LEDs) continue to be the "stars" on the lighting sky. Although their share of the total lighting market segment is still rather small, LEDs are expected to play an increasingly important role at trade fairs and exhibitions, either as single units, connected together to form modules, or incorporated into creatively-designed lighting fixtures. They are extremely attractive to lamp manufacturers, architects or end users, and Light+Building 2004, which will open its doors

again from 18 to 22 April 2004 in Frankfurt, will be no exception.

On the fringes of its subject matter, Light+Building has been extended to include complementary topics in order to provide an even finer intermeshing of the combined concept of technology, architecture and design. Around 2,000 exhibitors — occupying a total floor space of about 110,000 sq m — and something like 110,000 trade visitors from around the world, will converge together in a lighting industry extravaganza.

Once again, the "Light" segment — with around 1,400 exhibitors on 77,500 sq m of floor space — will be presented in a manner that is unparalleled anywhere else in the world. All of the market leaders from Germany, Italy and Spain have already signed up for the event. The decorative lighting product segment will be split into three styles — modern design; classic-modern; and classic-traditional. Within each style category, the fair will be profiling the two focal points, namely contract lighting and home lighting.

For example, contract lighting of modern design will be found in Halls 1.1 and 1.2 and home lighting of modern design will be found in Hall 5.1. Full-line suppliers and large national groups featuring a broad range of

products will also have their own exhibition halls at Light+Building.

LEDs are now regarded as suitable light sources among this broad spectrum of interesting lighting fixtures since they have gained in importance for general-purpose lighting. As their light efficiency has steadily increased, they have also become available in a wide choice of colours. Benefits such as low energy consumption, long service lives, compact dimensions and falling prices add to their attraction. The specific capability of these miniature light sources to emit nearly monochromatic light allows lighting solutions that cannot be realised using conventional lamps.

Systems that feature variable colour outputs are currently attracting a lot of attention. These are based on mixing the three complementary colours red, green and blue (RGB), and allow rapid colour changes within this chromatic range. Combined with suitable control systems, they allow generating any shade, ranging from apple green to lemon yellow.

Due to their tiny light-emitting areas of just one square millimetre, several LEDs are interconnected to form modules and provided with lenses that have been custom-tailored to suit their intended applications in order to achieve adequate brightness levels. The resultant light sources are

ideal for backlighting translucent surfaces, accenting contours, or for being incorporated into (intricately designed) lamps.

White LEDs, which are largely employed in general-purpose lighting, are subject to further demands, and must have a high luminous efficiency and high colour fidelity. Contrary to coloured LEDs having extremely narrow spectral bandwidths, white LEDs generate "white" light by means of RGB colour mixing or colour conversion processes using luminescent materials applied to ultraviolet or blue LEDs. Since there is still room for improvement here, both their colour rendition index (CRI) and luminous flux will meet the requirements for high-quality illumination within a few years.

However, LEDs are already inspiring the creativity of lamp designers. Regardless of whether chandeliers, table lamps, floor lamps, wall-mounting lamps or rail-mounting lighting systems are involved, LEDs emitting monochromatic light, white light, or generating backlit colour gradations, have an impact. New ideas in the areas of indoor and outdoor lighting are far from exhausted and the forthcoming Light+Building will feature a wealth of surprises from the world of LEDs.

Contact: www.light-building.messefrankfurt.com

Plumb Lines



Heard it on the grapevine ...

20 Years Ago Today!



No, **Tony Cusack of Wilo** has not started dyeing his beard ... this is Tony all of 20 years ago, pictured at a trade show in Embankment City in Dublin. Save for the lighter-coloured beard and a few extra pounds, I have to concede that you have weathered remarkably well Tony.

DES O'GORMAN REMEMBERED — The untimely death of Des O'Gorman earlier this month sees another long-standing industry stalwart depart this life. Des was widely known and respected throughout the entire building services sector, renowned as a man of integrity and sincerity. A gentleman to the core, Des will be sadly missed by his many colleagues and friends.

SANYO WINNERS — Congratulations to Alan McGovern, Glanbia Ingredients and Paul Browne,

Haughton & Young, who each won a Sanyo hi-fi system in our November competition; Peter Hanna of Brian O'Halloran & Associates, was the lucky winner of the Sanyo DVD player in December. This month's competition is featured on page 7.

SICK BUILDING CURE? — Sick building syndrome, the flu-like illness often blamed on bugs spread by ac systems, can be prevented with ultraviolet light, according Canadian scientists. Apparently, by fitting the UV lamps so that they shine directly on to the drip pans and cooling coils of the ac system, the microbes which cause sick building syndrome are killed, thereby reducing reported symptoms by as much as 40%. Another opportunity to "sell up" and offer an even more enhanced service?

STATE-OF-THE-ART DEMO RIG → Don Byrne, DIT, Bolton Street, proudly showing off the multiple boiler and automatic controls demonstration rig at the college which was designed by the Department of Building Services Engineering and installed by L Lynch & Co Ltd.



NESBITT TO MAKE WORLD DEBUT — Former Irish Tarmac Rally Champion Andrew Nesbitt — Managing Director of Cross NI and Group MD of Cross Refrigeration — will make his FIA World Rally Championship debut on next month's Swedish Rally (6 to 8 February). Winner of Europe's most prestigious asphalt rallying title in 2002, Andrew will drive a McKinstry Motorsport-prepared Subaru Impreza WRC which, not surprisingly, is co-sponsored by Daikin. "Having spent a few days on the frozen lakes in Norway I feel I'm ready to have a go

at a proper snow rally and Sweden is the best in the world," Nesbitt, a regular competitor in the Irish and British Rally Championships, told *Plumb Lines*. "It's going to be a huge challenge and one of the biggest since I was trying to win my first international-standard rally 14 events ago. I'm looking forward to the experience of driving at a completely new level and on one of the most spectacular rallies in the entire world championship." *BSNews* will report further on Andrew's exploits in our next issue.

Photograph: Jakob Ebrej Photography



Plumb Lines

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3D AIR SALES Ltd - Distributors of MITSUBISHI Split Systems, VRF Systems, and GHP in the UK and Republic of Ireland.



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Building Services Engineering, Vol. 43 [2004], Iss. 1, Art. 1

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