

9-1-2003

BS News

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(2003) "BS News," *Building Services News*: Vol. 42: Iss. 8, Article 1.

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et al.: BS News

*BSN*News

MECHANICAL & ELECTRICAL BUILDING SERVICES

SEPTEMBER 2003

UNDERFLOOR HEATING
15-Page Feature

**Marren
Engineering —
4-page Profile**

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ISSN 0791-0878

Published by:

Pressline Ltd,
Carraig Court,
George's Avenue,
Blackrock, Co Dublin.
Tel: 01 - 288 5001/2/3 Fax: 01 - 288 6966
ISDN: 01 - 211 2338/9
email: bsnews@pressline.ie
Website: www.buildingservicesnews.com

Editor: Pat Lehane**Advertisement Director:** Joe Warren**General Manager:** Louise Byrne**Origination and Design:**

Pressline Ltd. Tel: 01 - 288 5001

Subscription: One Year —€65**Printed by:** Kilkenny People Printers.

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* Incorporating Irish Heating & Ventilating News.

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.

Statistics Prove It's Not All Doom & Gloom

The number of construction jobs advertised in Ireland's national daily and Sunday newspapers in the three months to end July 2003 shows a 4.7% increase on the same period in 2002, according to the most recent Bank of Ireland Business Banking Job Index.

Construction has continued to be one of the strongest sectors for jobs advertised throughout the period since the Index began in March of this year, with the most recent data showing a 37% increase in the jobs advertised in the month of July 2003 by comparison with July 2002.

The key industry drivers of manufacturing and construction are showing notable sustained increases in the numbers of jobs advertised in the five months from March to July of this year, compared with the same period in 2002. Manufacturing is ahead by 12% over that period with the number of construction jobs advertised up by almost 8%.

According to banking sources businesses have been looking to grow and invest in recent months. Levels of lending are ahead of this time last year and the evidence of the Job Index suggests that confidence is returning to the economy as a whole.

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TRVs Need No Adjustment



The unique reversible-flow design in all Honeywell thermostatic radiator valves (TRVs) means they work in either flow direction without any setting-up, unlike many other TRVs which need adjusting to cure water hammer.

For installers, Honeywell TRVs are therefore simple to install and provide fault-free operation — they are truly “fit and forget”, according to a spokesperson. As their radiator tail and copper tube connection are interchangeable, Honeywell TRVs can be mounted horizontally or vertically at either end of a radiator, without causing water hammer.

Honeywell also

supplies TRVs with in-line connections for straight pipe runs.

The tailpiece of all Honeywell TRVs has 6mm of play to allow the body to move towards or away from the radiator.

Honeywell provides three TRV models — the VT117 and VT15 feature a wax-filled sensor within traditional-style fluted heads on a nickel-plated body, while the VT200 has a chrome top and a liquid-filled sensor mounted on a special chrome body. All valves are easy to install using 15, 10 or 8mm copper compression connections.

Contact: Honeywell, Tel: 0044 1344 656000; email: literature@honeywell.com

Solutions in Bathroom Design Competition

The bathroom world has been going through a transformation in recent years. Materials have changed, as have the various factors and trends influencing purchases, even purchasers' wishes have changed. Bathrooms are increasingly being seen as places to be shown off, where design and innovative ideas play a determining role. This

trend will provide ample opportunity for assessment and consideration at the Il Salone dell'Arredobagno/Bathroom Fittings Show set up by Fiera Milano International, which is to be held at Fiera Milano from 2 to 6 March 2004, as part of the 34th edition of Mostra Convegno Expocomfort.

Powrmatic Smoking Solution

Powrmatic has introduced a new heat recovery unit designed to meet ventilation demands in public places, especially pubs. A topical issue at the moment, the imminent ban on smoking in pubs scheduled to become operational in January 2004 has caused a great deal of controversy. Pressure from the hospitality sector is mounting and it just may result in a compromise with permission for designated smoking areas in pubs and improved ventilation in those areas.

“Traditional ventilation systems are quite good for extracting smoke to outside”, says Tony Delaney of Powrmatic Ireland, “but unfortunately all the heat is lost. Our new Reclaire 2 is fitted with two fan units, one to extract and the other to bring fresh air into the building. The added feature is a heat exchanger which recovers up to 50% of the heat that would normally be lost.

Designed to be installed in ceiling voids, the Reclaire 2 is available with a wide range of duct components, grilles and control options”.

Contact: Tony Delaney, Powrmatic Ireland. Tel: 01 - 452 1533

As an impetus for new ideas and solutions, the Bathroom Fittings Show and the independent “e-zine”, Designboom.com, are launching an international on-line competition “Inside the bathroom”. The initiative targets young designers and architects from all over the world and aims to collect ideas and designs to give new shape and form to the new bathroom concept.

Designs for submission should be based on three main themes: Whirlpool baths and multi-function showers; Taps and fittings; Sanitaryware.

Designs will be adjudicated by a jury made up of Elio Fiorucci, Oliviero Toscani, Luca Trazzi, Birgit Lohmann, Carlo Bassi, Giovanna Talocci and Ugo Volli. The entries will be assessed for technological and design features with special focus on the functional aspects of traditional bathrooms.

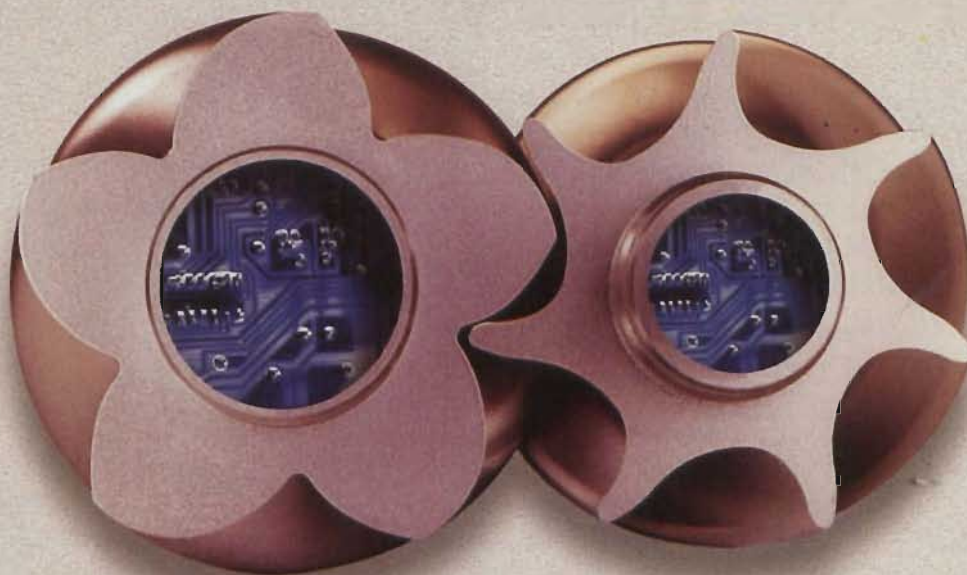
The jury will select four of the designs sent in which will be awarded cash prizes. The choice project will be awarded a prize of €5,000, while the other three finalists will receive honourable mentions and €1,000.

All works submitted will be used to create a gallery of suggestions and solutions that designboom.com will host in its on-line magazine www.designboom.com as well as an exhibition to be housed within the Bathroom Fittings Show.

The competition is an opportunity for companies operating in the sector to select designs and ideas of a viable and innovative nature that could make them suitable for product development.

To take part in the competition, just register before 30 September 2003. Participation conditions are listed on the www.designboom.com website

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E-MAIL : maria_furlong@trane.com
TEL : 01 460 6030 FAX : 01 460 6039



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Tánaiste Opens NCRL Acoustic Laboratory

An Tánaiste, Ms Mary Harney, TD, officially opened the new NCRL Acoustic Research Laboratory at the AcTech Group premises in Blessington, Co Wicklow, recently. The Group has invested in excess of €1.2 million in the new laboratory and ancillary production/warehousing facilities, as part of its drive to develop global business.

To that end it also recently recently set up a joint venture company in the US called AcTech Acoustic Technologies Inc., Mass. The client list includes JCB, Caterpillar; Terex; NACCO; Wright-Bus, Moffett Engineering, Sligo Gaiety Theatre and the Royal Irish Academy of Music

NCRL (Noise Control & Research Laboratory) was the first commercial acoustic test laboratory in Ireland, and its purpose

was to develop and test new acoustic products for for architectural, building services, industrial and OEM applications. This new laboratory is one of the most advanced in the world and positions the company at the forefront of acoustic research and development.

The AcTech Group of companies comprises VenTac & Co; NCRL; and AcTech Europe Ltd, all of whom are located in Blessington, Co Wicklow. In addition, the Group has a UK operation, with headquarters in Scotland, and two service facilities in Somerset and Cheshire. Current annual turnover is €5.6 million.

BSNews will have a full report on the opening and the US joint venture in our next issue.

Contact: Ciaron King, NCRL.

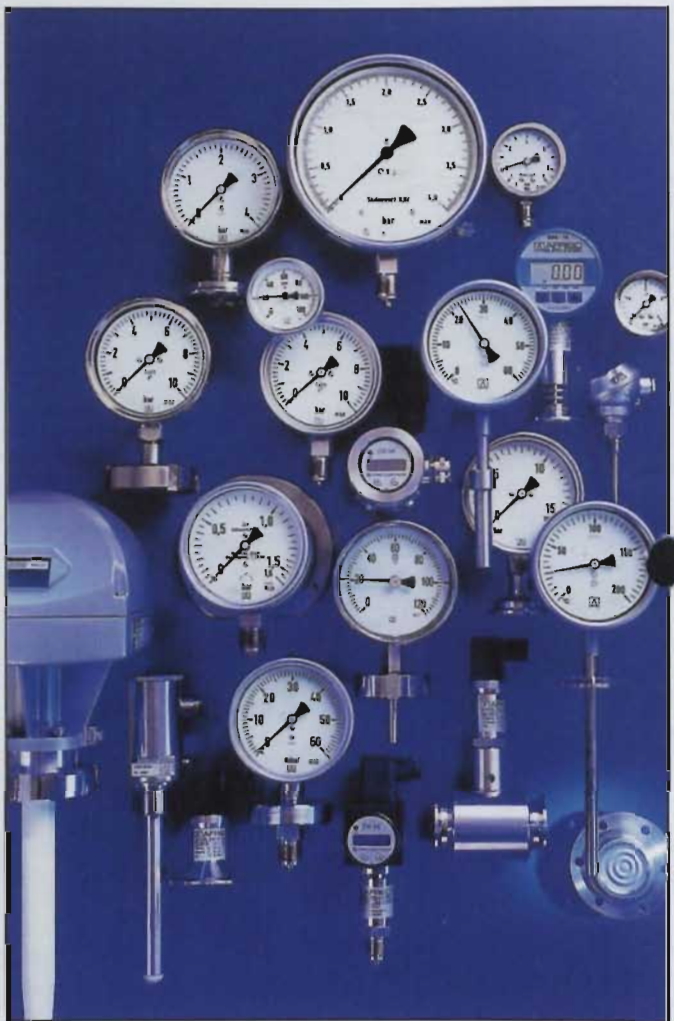
Tel: 045 - 851 500.

email: ctking@ventac.com



Mr Richard Mulcahy, SoundSeal, USA with Ciaron King, Managing Director, AcTech Group; An Tánaiste, Mary Harney, TD and Barry Lyons, SoundSeal, USA

Afriso Measurement Devices From Manotherm



Afriso offers a complete range of high-quality, competitively-priced products for pressure, temperature and level measurement. Available in Ireland from Manotherm, the portfolio includes both mechanical and electronic devices, including:—

Pressure (mechanical) — Capsule press gauges; Bourbon tube pressure gauges; Diaphragm pressure gauges; Pressure gauges for differential pressure; Accessories for pressure gauges; and Diaphragm seals.

Pressure (electronic) — Pressure transducers; Digital pressure gauges; Hand-held measuring devices; Display and

control devices; Test and calibration devices.

Temperature (mechanical) — Bimetal thermometers; gas-filled thermometers; Industrial thermometers; Thermowells.

Temperature (electronic) — Resistance thermometers; Temperature control thermomstats; Temperature limiters; Digital thermometers; Display and control devices.

Contact: Bob Gilbert/Noel Walsh/Robert Gilbert, Manotherm.
Tel: 01 - 4522355;
email: manotherm@eircom.net

SANYO

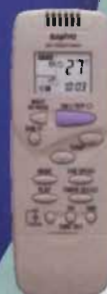
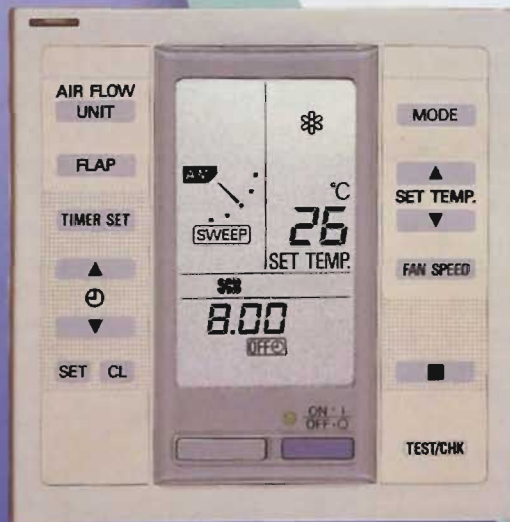
AIR CONDITIONERS

LCD Controller

The **RSC-SH80TG** offers so much more than a standard LCD remote controller. It is nothing less than a service tool. Compatible throughout the entire Sanyo 'SPW' and 'VRF' commercial ranges it provides all the features you expect; mode control, temperature control, a cycle timer and fault code indication, but the detailed setting mode allows you to access many more features such as:

- temp set point range change
- real time sensor values
- compressor operating current
- adjustable auto mode deadband

The **RSC-SH80TG** is one of many controllers offered by Sanyo, you just select the one that best suits your requirements.



Sanyo Air Conditioners

41 Western Parkway Business Ctr
Ballymount Road, Dublin 12.

T. 01 456 8910 F. 01 450 7227

www.sanyoaircon.com
Published by ARROW@TU Dublin, 2003

Panasonic VRV Multi-Split



The new Panasonic VRV MX3 Series from Walkair

Walker has introduced the new Panasonic VRV multi-split systems in response to specifiers demands for a sophisticated range incorporating a wide choice of models, design flexibility, energy-saving benefits and space-saving features.

There are two series of systems available — MX3 Series R410a inverter combination VRF heat pump system; and ME3 Series R410a inverter combination VRF heat recovery system.

For both systems there are 22 models of outdoor units available, ranging from 5hp to 48hp (13 to 135kw), with actual piping distance now extended to 150m (equivalent length 175m).

There are three basic modules of outdoor unit available — 5hp; 8hp + 10hp; and 12hp, 14hp + 16hp. Combinations are extended up to 48hp for increased flexibility.

Panasonic has also decreased pipe sizing requirements – suction side by two sizes, and liquid side by one size (for 8hp or more), thus decreasing installation cost, etc.

All models are provided with an energy-

saving feature ranked at the top level in the industry, with the average COP for the 10hp unit being the No: 1 in the industry at 3.25.

Another feature of the new range is space saving on outdoor units — approximately less 50% for the 16hp unit and 20% for 10hp. This of course also means reduced service space requirements and weights.

Further reliability is also achieved by rotation operation of compressors, and assured back-up to prevent system from stopping — even if one of three compressors becomes faulty, the remaining compressors are available for emergency operation. In the case of models larger than 18 hp, even if one outdoor becomes faulty, the remaining outdoor units are available for emergency operation.

With a total number of 65 indoor units available for connecting to the new UM3 range, Panasonic now has the optional solution to meet any specifiers demands.

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

CCC Ireland Autumn Seminars

“Sub-contractors — Roles, Rights and Remedies” is the theme for two forthcoming seminars to be held in Ireland as part of the Contract & Construction Consultants (Ireland) Autumn 2003 programme.

The first will be held in the Hodson Bay Hotel, Athlone on Wednesday, 15 October and the second in the Engineers Club in Dublin on Thursday, 16 October.

There are also two seminars in November on the “Pitfalls and Opportunities in PFI/PPP”. They will take place in the Ardilaun Hotel, Galway on Wednesday, 5 November and the Engineers Club, Dublin, on Thursday, 6 November.

Contact: Ms Justine Dugan, CCC.
Tel: 01 - 676 6744;
email: dublin@contract-consultants.com

Wanted: Dublin Sales Rep!

Radiator Plus, the Kilcoole, Co Wicklow-based distributor of cast-iron and steel radiators, heated towel rails, wall-mounted gas-fired boilers, radiator valves and accessories is looking for a sales representative for the Dublin area.

The position is full-time and permanent, offering basic salary with commission, company car, etc.

Contact: Peter McKeon, Radiator Plus.

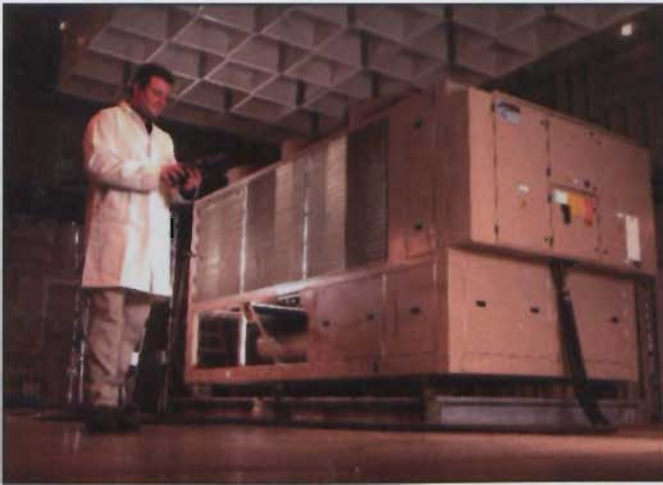
Tel: 01 - 287 8077; email: info@radiatorplus.ie

Quality Award for PH McCarthy



PH McCarthy & Partners, Ireland's longest-established firm of consulting engineers, has been awarded the latest ISO 9001:2000 for its Quality Systems. Picture shows Minister for Transport, Seamus Brennan TD, presenting the award to the firm's Managing Director, Michael Hand. PH McCarthy also received the prestigious Continuing Professional Development Award from the Institution of Engineers. This too was presented formally by the Minister to Mr Hand. PH McCarthy, founded in 1889, is one of the few firms to offer civil, structural, building services, process and environmental design capability in-house. It is 100% Irish-owned with 130 staff and offices in Dublin, Limerick and Douglas, Isle of Man.

York Sonata High-Efficiency



York has ensured that the increase in efficiency compared to the standard Sonata models has not compromised its key benefit of low sound

Hot on the heels of its standard, low-sound Sonata air-cooled screw chillers, York ACR has introduced the equally-quiet, high-efficiency models. Across the six units, cooling capacities

range from 447kW to 614kW with corresponding coefficient of performance (COP) between 2.76 and 2.89.

COP includes compressors and fans and has been measured at

Rurovent standards with 7°C leaving chiller water temperature and 35°C ambient. This equates to a COP of 3.5 in normal UK conditions.

Even for the top of the range unit, with the fans operating at high speed, sound pressure level at 10m in only 61.5dB(A), comparable to the sound generated by a normal conversation. This is achieved by way of specially-configured 2-speed fans and a sound-attenuated chamber that contains compressors, oil separators, valves and piping system.

Contact: Frank Doyle,
Your ACR.

Tel: 01 - 466 0177.

Elta Acquires Hydor

The Elta Group has acquired agricultural ventilation and controls specialist Hydor. The company now joins Elta Fans and Fastlane Equipment, along with major businesses in Australia, New Zealand, South Africa and Ireland.

The intention is to develop Hydor as an independent company within the group, using synergies where they exist, especially in the case of overseas business.

Contact: Brendan O'Toole, Fantech Ventilation.

Tel: 01 - 882 8411.

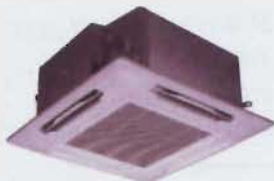
email:

fantech@eircom.net

Toshiba launches a new range of energy-efficient air conditioning units

The Digital Inverter from Toshiba combines economy and ecology in a smart body. It offers state-of-the-art technology, exceptional energy savings, high performance, easy installation and flexible control. The latest digital inverter technology ensures smooth start-up and capacity control for optimum comfort. A choice of indoor units includes cassettes, ducted, under-ceiling, wall-mounted and floor-mounted units.

It is mandatory that all air-conditioning systems (up to 12.5kW) are energy labelled from January 2004. The Digital Inverter range from Toshiba offer some of the best energy efficiency ratios on the market.



Four-way cassettes



Ducted units



Console and under-ceiling units



High-wall units



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GT Phelan Ltd, Unit 30, Southern Cross Business Park, Bray, Co Wicklow.

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High Efficiency Heating From Mark

ECM stands for electronically commutated motor, a concept developed in the US by General Electric laboratories at the end of the 1980s and now available in Ireland from Mark Eire bv, the Macroom-based indoor environmental technology group.

Using sophisticated built-in hardware and software to calculate their working point without the use of external sensors or expensive control devices, they can monitor their own activity and communicate it to a PC.

When market conditions allow, Mark employs this technology on the following type of projects — LPHW and electric unit heaters; door curtains (LPHW, electric and air); air handling units; gas-fired heaters; eco fans and cabinet heaters.

"These units are highly-efficient", says Mark's Mike O'Donoghue, "as they use permanent magnets brushless DC motors which can reach efficiencies of between 85% and 60% depending on the rotation speed ranging from 1800 to 300rpm. The integrated

technology used to vary the rotation speed eliminates the usual sources of vibration or resonance type of noise usually present with traditional speed control technologies.

"From the overall cost point of view of any energy-consuming system, it is essential to evaluate the monies involved not on first-cost alone but on the expected operational and performance costs over the system's projected lifespan. First-cost and/or installed cost is only part of the equation, the crucial issue is the life-cycle cost of a system. In this respect systems using ECM technology deliver by far the best returns".

Typical installations already supplied by Mark Eire include warm air heaters in all manner of applications including clean rooms, hospital operating theatres, cinema complexes, etc. Next month's *BSNews* will feature a number of case studies demonstrating the effectiveness of the ECM technology in different types of installations.

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



Andrew Mayo, Sales Manager Air Conditioning, Digital Appliance Division, Samsung with David P Oldroyd, General Manager, White Goods Division, Samsung; Adrian Cooke, Managing Director, Walkair and Vincent Mahony, Sales Director, Walkair

To further strengthen the scope and flexibility of the ac solutions it provides Walkair has added Samsung's wide range of splits and high-quality multi-splits to its already-extensive portfolio. This high-profile name sits very comfortably with the company's existing stable of market-leading brands.

"The changing face of the marketplace — coupled with the demand for an ever-increasing number of options — means that we need to provide our dealers with a comprehensive range of applications solutions", says Vincent Mahony of Walkair. "The addition of

Samsung to our current product line-up gives us the means to do just that.

"Our traditional route to the marketplace is through our dealer network and Samsung will now strengthen that partnership by providing our dealers with greater flexibility which in turn will lead to greater market penetration and more satisfied clients".

BSNews will have further details on the scope and extent of the Samsung range in our next issue.

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

Off-Site Fabrication — UK Experience

BSRIA has just published the findings of a UK market investigation into off-site fabrication (OSF), including the current size of the market, attitudes towards OSF, and the potential for future uptake. Those with an interest in OSF should visit www.bsria.co.uk
Contact: Chris Marney, BSRIA. Tel: 0044 1344 426511; email: chrism@bsria.co.uk

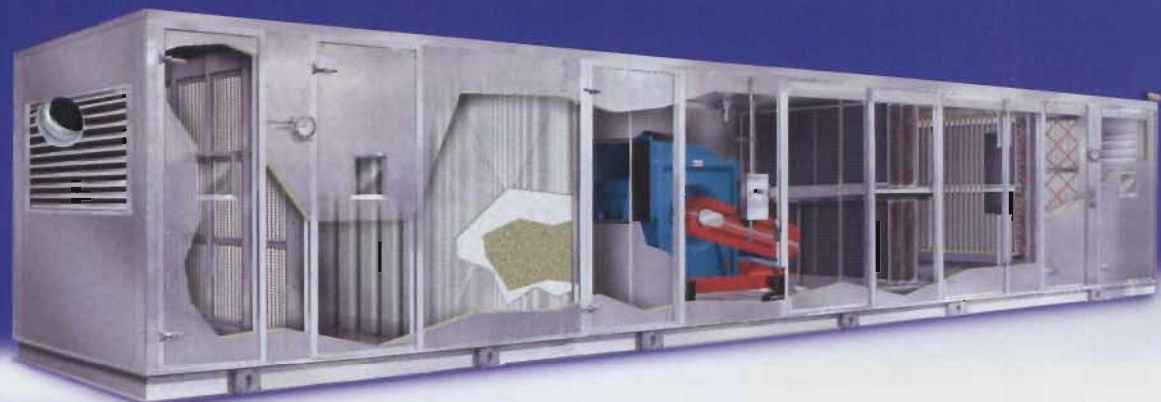


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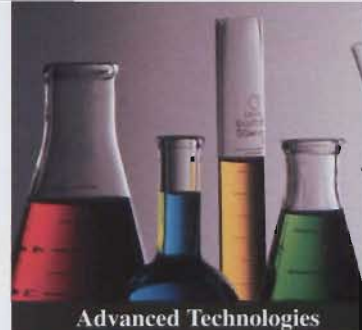


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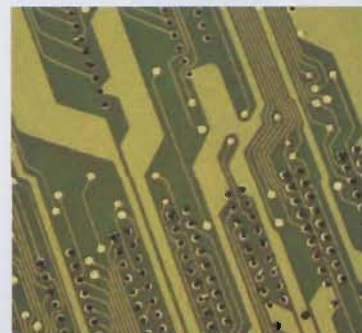
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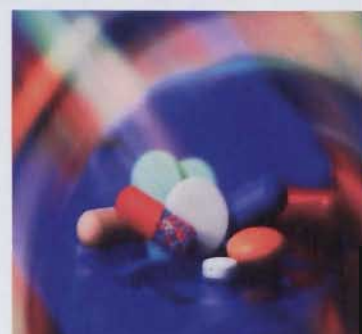
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Museums/Libraries

Toshiba Comfort Control at Beacon Court



Toshiba ac installation at Beacon Court in Dublin, as supplied by GT Phelan

With Phases 1 and 2 of the six-acre Beacon Court project in Sandyford, Co Dublin now completed, comfort control for the 3500 people who work in the campus-style, glass-roofed commercial development is provided by Toshiba air conditioning systems installed by GT Phelan. To date a total of 46 Toshiba VRF systems supply both heating and cooling, making it one of the largest installations of its type in Europe.

Each outdoor unit supplies heating or cooling as required to six ducted indoor units concealed above a false

ceiling. An additional 25 split systems have also been installed in the smaller suites and shops around the site.

Because there is no requirement for a large services plant room, net lettable space has been maximised, providing an additional benefit for the developer. Moreover, because the system is so flexible, the partitioning requirements of incoming tenants can be easily accommodated.

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

Carrier 'Classic' Ducted Unit

The Carrier 42UK fan coil now available from Core Air Conditioning was designed to meet the latest market expectations and to provide full compatibility with the Carrier Aquasmart complete air conditioning system package.

It is a "classic" ducted unit but offers particularly low noise levels from NR 20-36, depending on air flow rate requirement and motor drive combination. It is also a particularly compact unit at only 245mm deep. A new feature is the drip tray that extends the full width of the fan coil unit and, where fitted, the insulated drain tray extends below the valve package. These units are designed to be installed horizontally in false ceilings and can be connected to the fresh air supply via an airflow controller.

The casing and integral discharge plenum are manufactured from 1.6mm galvanised sheet steel with up to 25mm fire-rated 'O' Class foam sheet fitted internally for thermal and acoustic insulation.

The Carrier 42UK is available in four sizes with two motor drive combinations. It is capable of air flow rates from 70 I/s to 360 I/s via six fan speeds, and has vertically-mounted Eurovent grade EU2/3 filter pads fitted as standard. All models are supplied with a three-year parts warranty. Its performance has been independently tested by BSRIA and is Eurovent certified.

Contact: Austin McDermott, Core Air Conditioning.
Tel: 01 - 409 8912;
email: info@coreas.com

Envirocare Expands Sales Force

Envirocare Pollution Control Ltd, a member of the Kingspan Group of Companies, has appointed four new representatives to handle the rapid growth it continues to enjoy in the market for domestic and commercial off-mains drainage solutions. They are John McGowan — Donegal and Fermanagh; Hubert Keaney — Sligo, Roscommon and Leitrim; Richard Kiernan — Galway and Clare; and Niall Brannigan — Cork and Kerry. Envirocare has pioneered the move away from simple septic tank installation in favour of the more sophisticated and environment-friendly sewage treatment plant.

VRV II It's four times better
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Even Higher COP



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Free With This Issue of *BSNews* The New Grundfos 'Installer Catalogue'

In recent months in particular, Grundfos has issued a vast amount of new literature covering all manner of innovative new products, trend directions, and technological developments. This is all part of the Grundfos Domestic Building Services Awareness campaign, an initiative aimed at broadening the scope of understanding of all matters relating to pumps and the building services sector.

With this issue of *BSNews* comes the final part of that campaign ...

the *Grundfos Installer Catalogue*.

Grundfos is known the world over for heating circulators but, the fundamental message of the latest awareness campaign is to convey to the industry at large that this is but one element of the vast portfolio of pumping solutions available from the company.

"Water supply and wastewater are two areas where Grundfos wants to create more awareness", says Gordon Barry, General Manager of Grundfos Ireland. "Moreover", he

continues, "we want to make the task of selecting a pump to do a specific task easier. Consequently, within the large selection of pumps available from Grundfos, we have tried to condense, shorten, pare down, and serve up the popular, best, most sought-after models on the Irish market.

"While Grundfos Ireland already has an excellent reputation for circulating water around buildings, we now want to inform you of our expertise in getting water into, and out of, buildings with equally efficient and reliable products and systems.

"Grundfos has a wealth of national and international experience to bring to the installer and we are sure that the new catalogue will help the installer make the right choice.

Additionally, we have an in-house team of engineers — complemented by a team of field sales engineers — who are available to assist with this decision-making process".

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

Low-maintenance PVC Soffit & Fascia System



Having already introduced Eavemaster as Ireland's first easy-fit, low-maintenance PVC soffit and fascia system, MFP has now added decorative mouldings designed to enhance the external appearance of any home.

The two attractive styles — the dramatically-scalloped "Gothic" and the classic simplicity of the "Ellipse" — come with or without cutouts (in the case of Ellipse mouldings you can specify a central cutout, two side cutouts, all three or none at all). The two designs are 100% interchangeable, enabling installers to quickly create a wide and varied range of designs on-site.

These mouldings are designed, like the total Eavemaster system, to attach in seconds and last a lifetime with little or no maintenance. They clip directly on to Eavemaster plain and ogee fascias and are available in white, brown and black.

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



This new Grundfos Installer Catalogue comes to you free with this issue of *BSNews*

Lower Friction Thanks To a Lizard!

A smooth lizard from the Sahara is helping Wilo bionics engineers develop new types of bearings with lower frictional losses. The sand skink of the Sahara, also known as the sandfish, has turned in an outstanding performance: it can swim under the sand, which of course is much more strenuous than swimming in water.

Bionics specialists have been examining the phenomenon. The scales of the sandfish in particular – as the

researchers theorise – must demonstrate some sort of mechanism which reduces the friction between solid bodies. In fact, the surface of the sandfish's scales does indeed look as if it has been polished.

A special procedure has been developed for measuring sand friction, which measures the angle at which the sand ceases to slide over the surface. The scales of the sandfish produced an angle of 21°, a sensational figure in comparison to artificial

surfaces produced by man. On highly-polished steel, the sand stops sliding at an angle of 25°, on glass at 28° and on nylon at 30°. The next step for the bionics specialists will now be to investigate the special properties of the sandfish's scales, in order to be able to reproduce these properties on artificial surfaces. This example from nature could therefore, perhaps, be used to design new types of bearings with lower frictional losses.

Contact: Tony Cusack, Wilo Engineering.
Tel: 061 - 227566;
email: sales@wilo.ie



The smoothness of the scales of the sandfish puts even polished steel to shame

Win a Sanyo DVD Reader competition

Enter our reader competition and you could win a fantastic DVD player in our prize draw. Simply answer the questions and complete the details, copy and fax back to BS News on 01 288 6966.



September competition

- 1) What TV Programme was recently launched on TV3 to compete with the Late Late Show?
 - a) The Keane Show
 - b) The Dunphy Show
 - c) The Muppet Show
- 2) When will the new smoking ban laws be introduced in Ireland?
 - a) January 2004
 - b) March 2004
 - c) January 2005

- 3) Which Marvel Comic Character has been a 2003 box office 'Smash'?
 - a) Spider-Man
 - b) Superman
 - c) Hulk
- 4) Which English Premier League football team is owned by a Russian?
 - a) Chelsea
 - b) West Ham
 - c) Arsenal
- 5) Which 2 letters denote a Sanyo Wall Mounted Unit?
 - a) TR
 - b) SR
 - c) KR

Name: _____
 Company: _____
 Address: _____
 _____ Postcode: _____
 Email: _____
 Tel: _____

Fax back to BS News on 01 288 6966

Rules: Competition open to anyone over the age of 16. No limit to the number of entries made.

Sponsored by
SANYO
 AIR CONDITIONERS

Eli Lilly Turns To Air Enterprises

When it came to solving the air handling requirements of its multi-million euro plant in Dundurrow, near Kinsale, Co Cork, Eli Lilly turned to Air Enterprises to devise a customised solution.

The nature of Eli Lilly's business demands air quality control to exacting specifications and the unit provided and installed by Air Enterprises — in conjunction with Edpac of Carrigaline — meets that objective.

This is just the latest in a series of high-spec projects carried out by Air Enterprises Europe since opening its European headquarters in Dublin with Pat Byrne as Director of Sales. In a little over 12 months the company has made substantial inroads into this competitive market segment, winning a number of large-scale contracts for multi-national operators here in Ireland, and the UK. Quality in respect of design, engineering, build



Ross O'Donovan, Edpac with Steve Stimmel, Project Manager, Air Enterprises and Noel Lynch, Managing Director, Edpac

and performance are the key user benefits.

"We're very pleased with our progress to date", says Pat Byrne, "and especially with the fact that more and more consultants and end-users are looking to the performance and life-

cycle costs of air handling units, rather than the initial purchase price, when making their AHU selections."

Contact: Pat Byrne, Air Enterprises Europe.
Tel: 01 - 429 3195;
email: pbyme@airenterprises.com

CIBSE Code for Lighting

The Code for Lighting (which replaces the 1994 Code for Interior Lighting) is now available from CIBSE. This indispensable guide provides up-to-date information on all aspects of interior lighting, including the following sections: Visual Effects of Light, Lighting Recommendations, Equipment, Lighting Design and a Calculations Guide. The A4 soft-cover book, published for CIBSE and the Society of Light and Lighting (SLL) by Butterworth-Heinemann, is packed with tables showing the recommended lighting levels in virtually every type of indoor working location and room type: hospitals, hotels,

restaurants, libraries, offices, schools and many more.

The Visual Effects of Lighting section describes in detail the three main functions of lighting and how they can be accommodated in lighting design: health and safety, facilitating the performance of visual tasks, and aiding the creation of the desired visual environment. There is also a section on lighting design which assists lighting designers through each stage of the design process: objectives, specification, planning and verification. A CD-ROM version of the Code for Lighting is also available. As well as containing the Code, the CD includes HTML

versions of: Lighting Guide 1: Industrial Lighting; Guide to Fibre-Optic and Remote Source Lighting; Lighting Industry Federation Lamp Guide; Lighting Industry Federation Technical Statements; National Lighting Design Awards; CIBSE Lighting Division Fact-files; Addendum 2001 to CIBSE Lighting Guide 3. The soft-cover Code for Lighting costs St£72 or St£45 for CIBSE/SLL members while the CD-ROM version costs St£146.88 or St£88.13 for CIBSE/SLL members. The two items together cost £166.88 or £108.13 for CIBSE/SLL members.

Contact: CIBSE.
Tel: 0044 20 8772 3618;
website: www.cibse.org/publications.

Synthetic Lubrication — How to Handle?

EmkrateRL.com is a dedicated online solutions centre for contractors and distributors seeking advice on how best to manage and install synthetic lubrication products designed for use in air conditioning and refrigeration compressor systems.

It provides information and expertise making it possible for air conditioning and refrigeration professionals to take advantage of all the benefits synthetic lubricant technology has to offer, including improved efficiency and performance of retrofit and all-new HFC-compliant compressors. Visit website www.virginiakmp.com

Planning an environmental upgrade for your building?

et al: BS News



Honeywell has the future all mapped out

Honeywell leads the world in building control technology, improving the working environment, conserving energy and raising fire and security standards.

In fact, Honeywell building controls can match the needs of any building precisely, from individual controls to a fully integrated management control and protection system.

The market for Honeywell building controls covers every type of location and every kind of customer. And, whatever your requirement, our distributors in Ireland are on hand to provide advice and support. That's how we build strong working partnerships with all customers.

Honeywell's reputation for quality and reliability is second to none. And this, coupled with our market leading innovations, ensures that buildings run smoothly and can easily be upgraded or modified with products that will serve you effectively today and well into the next millenium.

Automation and Control Systems.

Honeywell

Honeywell House, Arlington Business Park

Bracknell, Berks RG12 1EB

Telephone: 0044 1344 656000

Fax: 0044 1344 656240

CRYSTAL GLINTS IN THE K CLUB

Crystal Air Scorchers!

Domnick Ward and David O'Brien were delighted with the turnout at The K Club recently for the Crystal Air annual golf day. This event has grown year on year and always attracts a very large field, a fact which is a reflection on the generous hospitality provided by Domnick, David and their colleagues.

As a major trading partner of Crystal Air, Sanyo Air Conditioners Europe actively supported the event and also had the Sanyo rally car parked on the first tee.

The K Club is always in excellent condition but, with the extraordinary weather on the day, it was really at its best. Such were the high temperatures that The K Club staff followed the players around the course on golf buggies laden down with cold drinks and snacks.

Presentation of prizes took place after a fantastic meal in the Arnold Palmer room.

For main winners see photographs. Other prizes on the day went to Joe Quinn, Jury's Group, for longest drive and Shane Cunningham, Irish Distillers, nearest the pin.



Crystal Air Directors Domnick Ward and David O'Brien with Barry Hennessy, Sanyo Air Conditioners Europe



Second Place: Declan Mc Carthy, Pauric Doyle and Dick Burke, Jurys Group with Joe Russell, Dunbeg Golf Club



Winning Team: Brendan Keaveney, Keaveney Eng with Sean Mc Cormack, Mc Aleer and Rushe; Steve Cunningham, Steve Cunningham and Associates and Cathal O Donoghue, Crystal Air



Third Place: Conor Clarke, Complete Business with Gerry Mac Mahon, Rathgar Engineering; David Shearer, Caldwell Partnership; Domnick Ward and David O'Brien, Crystal Air; and Bernard Bennett, Penco Group



The Chartered Institute of Building Services Engineers

Republic of Ireland Region Events For 2003-2004



DATE	DESCRIPTION	VENUE	PRESENTED BY
Thursday, 2nd October 2003	Annual Student Awards — DIT, Kevin Street	DIT, Kevin Street	
Thursday, 16th October 2003	ESG Lecture: “Duplicate CPC Requirements for High Protective Conductor Current IT Equipment”	DIT, Kevin Street	Dr. Tony Sung
Thursday, 23rd October 2003	Education Lecture: “Continuing Professional Development Support for Engineers”	IEI, Clyde Road	Philip Riseborough
Thursday, 6th November 2003	SLL Lecture: “Industrial Lighting”	DIT, Kevin Street	Ole Hoem
Thursday, 13th November 2003	MSG Lecture: Pat Benson Memorial Lecture: “Building Thermal Design Using Spreadsheet Programs”	DIT, Bolton Street	Louis Demetriou
Thursday, 27th November 2003	ESG Lecture: “Local Sustainable Community Energy”	DIT, Kevin Street	Allan Jones, MBE
Friday, 5th December 2003	Celebrity Lunch	The Schoolhouse Restaurant	TBA
Thursday, 15th January 2004	MSG Lecture: “Wind Convector Heat Pumps: Experimental Testing and Performance Modelling”	IEI, Clyde Road	Dr. Donal Finn
Thursday, 29th January 2004	ESG Lecture: “Health and Safety — an Electrical Perspective”	DIT, Kevin Street	Richard O’Rourke
Friday, 20th February 2004	CIBSE Biennial Ball	Burlington Hotel	
Thursday, 26 February 2004	Annual Student Awards — DIT, Bolton Street	DIT, Bolton Street	
Thursday, 4th March 2004	MSG Lecture: “Environment Friendly Integrated Building Design”	IEI, Clyde Road	Prof. Owen Lewis
Thursday, 1st April 2004 Friday, 2nd April 2004 Saturday, 3rd April 2004	SLL International Symposium	DIT, Kevin Street	TBA
Thursday, 8th April 2004	Annual General Meeting	IEI, Clyde Road	

ESG = Electrical Services Group

MSG = Mechanical Services Group

SLL = Society of Light & Lighting

NOTE: Any changes to this event programme will be indicated on the website — www.cibseireland.org

Powerscourt

Sponsor: FläktWoods (Ireland)

Overall Winner	Dermot Ryan	(10)	35 Points
Class 1	1-11		
	1st	Joe Weafer	(7) 40 Points
	2nd	Bernard Sweeney	(8) 35 Points
	3rd	Tony Delaney	(9) 34 Points
Class 2	12-15		
	1st	David Lynch	(12) 36 Points
	2nd	Paul Allen	(14) 34 Points
	3rd	Sean Stenson	(14) 33 Points
Class 3	16+		
	1st	Tom Scott	(19) 30 Points
	2nd	Seamus Tully	(22) 29 Points
	3rd	Bob Daly	(16) 29 Points
Front Nine	Michael Matthews		18 Points
	Michael Kearney		18 Points
Back Nine	Des Prendergast		18 Points
	Michael Wyse		17 Points
Past Captain's	Brendan Keaveney		35 Points
Visitors	Tony Daly	(16)	36 Points
	John Duignan	(12)	35 Points
	John Caffrey	(16)	32 Points
Nearest Pin	Ray Byrne		
Lonest Drive	Michael Melligan		



Overall Winner, Dermot Ryan and BTU Captain, Jim Smith



Michael Murphy, FläktWoods (Ireland) with Class 3 Winner, Tom Scott and BTU Captain, Jim Smith



Michael Murphy, FläktWoods (Ireland) with 2nd, Class 1, Bernard Sweeney and BTU Captain, Jim Smith

BTU Matchplay – Semi-Finals

Brendan Bracken	v	Michael White
Sean Smith	v	John Littlefield



Michael Murphy, FläktWoods (Ireland) with Past Captain's Winner, Brendan Keaveney and BTU Captain, Jim Smith



Michael Murphy, FläktWoods (Ireland) with 3rd, Class 1, Tony Delaney and BTU Captain, Jim Smith

Daikin Leads The Way with VRV Innovation

VRV air conditioning has become smaller and more energy-efficient with the development by Daikin of equipment designed and optimised for R410A. Daikin first introduced its VRV system (this company's trade name for VRF) to Europe, including Ireland, 15 years ago and the systems used R22, at that time the most environmentally-friendly refrigerant available.

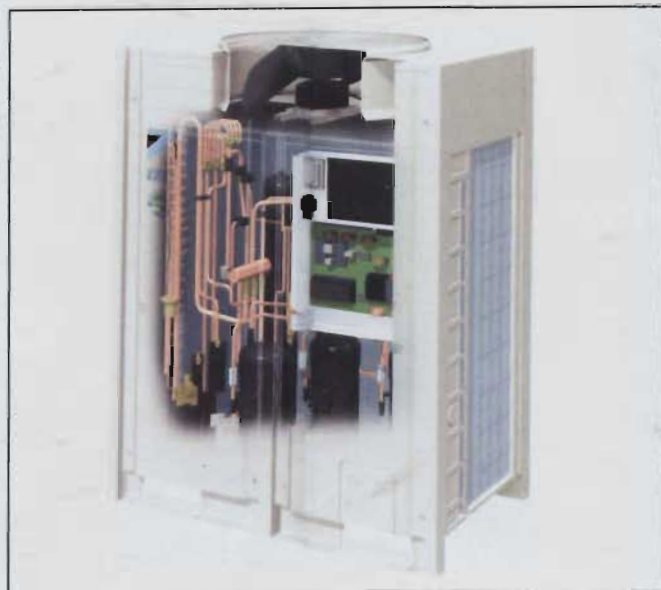
A succession of product developments since then has achieved constant improvements in the flexibility and efficiency of VRV. In particular, 1998 saw Daikin respond to ever-increasing environmental pressures with the introduction of a VRV system using the ozone-friendly R407C refrigerant.

Now the company has moved on to the next development stage with the introduction of the VRVII range using R410A.

"Impressive energy efficiency is one of the most important benefits of this development", according to Brendan Kilgallon, "At full load the co-efficient of performance in cooling mode ranges from 2.83 to 3.11, depending on the unit, with heating COPs from 3.38 to 3.57. However, VRVII is more efficient at part load than at full load. In particular, the cooling COP at 50% load ranges from 5.3 to 5.4 and for heating from 4.0 to 4.5".

The change to this more energy-efficient refrigerant, coupled with the development of a range of equipment designed to maximise its potential, has enabled Daikin to offer an extensive range of more compact and lighter outdoor units with higher cooling capacities, smaller capacity steps, the potential for longer pipework runs, less refrigerant, smaller pipework and the ability to serve more indoor units. Another key benefit of R410A, a 50/50 blend of refrigerants R32 and R125, is a temperature glide of just 0.2 K. In developing the VRVII range, Daikin has combined its expertise as a manufacturer of compressors, refrigerants and air-conditioning equipment, a capability which Brendan Kilgallon of distributors Coolair says is unique in the world.

Both heat-pump and cooling operation are offered by the new range. Just six base outdoor units offer capacities from 5 to 48hp in 22 combinations to serve up to 40 indoor units. A new compressor designed specifically for R410A, redesigned heat exchangers, fans and discharge grilles all make major contributions to the smaller size and lower weight of the outdoor units. A 16 hp VRVII outdoor unit, the largest made, has a footprint of 1.88 m², little more than half that of the current



A cut-away section of the VRVII

corresponding equipment.

The improved performance possible with R410A also has a dramatic impact on pipework requirements. A 48hp system, for example, requires one 41.3mm gas pipe and one 19.1mm liquid pipe — compared with two of each size for the current VRV range. The space needed for pipework risers for a 240hp installation is nearly halved — from 1700 x 300mm to 950 x 300mm. Other pipework can be two sizes smaller for gas and one size smaller for liquid.

Not only are pipes smaller, but they can also be longer.

Within the building, the new VRV system can be used with the entire range of existing indoor units, embracing 2- and 4-way ceiling cassettes, ceiling-mounted corner, built-in ducted, ceiling-suspended, wall-mounted, floor-standing and concealed floor-standing models. A new

600mm square multi-flow ceiling cassette fits into standard ceiling-tile spaces and has been introduced to meet changing requirements.

There is also a new wall-mounted unit with a capacity of 1.6 to 2.5hp weighing 14 kg, 10 kg less than its predecessor, and also requiring 22% less wall space.

At the heart of VRVII is a radical new compressor featuring a reluctance digitally-commutated motor, optimised scroll shape for R410A which is much smaller than the current model, a high-pressure shell made of a stronger material, improved sealing and stable oil temperature. Because refrigerant gas no longer has to cool the motor, suction gas is drawn in between the orbiting and fixed scrolls at -5°C.

Contact: Brendan Kilgallon, Coolair.
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Legionnaires' Disease – The Need for Management Control and Training

The recent outbreak in Barrow and other more recent outbreaks in South West England and Ireland have brought the issue of legionnaires' disease to the forefront of the minds of those managing or maintaining premises.

In the UK the Health and Safety Commission (HSC) has produced a new Approved Code of Practice (ACOP) and Guidance Document (L8), which came into effect on 8 January 2001. The ACOP applies whenever water is stored or used in a way that may create a reasonably-foreseeable risk of Legionnaires' disease, write Mike Knight and Dr John Alvey.

What is Legionnaires' Disease?

Legionnaires' disease was first identified after a large outbreak of pneumonia among people who attended an American Legion convention in Philadelphia in 1976. The disease is normally contracted by inhaling the Legionella pneumophila bacteria in tiny droplets of water (aerosols) which are inhaled deep into the lungs. Person to person spread of the bacteria has never been found.

The disease takes between two and 10 days to develop. Infection can be fatal in approximately 12% of cases. As well as the susceptible groups, eg over 45s, smokers and those already seriously ill, men appear to be more affected than women. Legionella bacteria are common and can be

found in rivers, lakes and reservoirs. Legionella bacteria can survive under a wide variety of environmental conditions. However, they prefer water temperatures between 20°C and 45°C. The organisms do not appear to multiply below 20°C and will not survive above 60°C. They may, however, remain dormant in cold water and multiply when the temperature rises.

As the bacteria are so commonly found, they can live in man-made water systems and can be found in cooling tower systems, hot and cold water systems, and other plant which use and store water.

Reducing the risk

To reduce the risk of legionnaires disease it is important to introduce measures that:

- (a) Identify the source of risk;
- (b) Prepare a scheme for preventing or controlling the risk;
- (c) Implement, manage and monitor precautions;
- (d) Keep records of the precautions taken;
- (e) Appoint a person to be managerially responsible. This person should be trained and competent.

A risk assessment helps in the preparation of the scheme for controlling the risk. The assessment is carried out by, or on behalf of, the owner or the manager of the premises. He is ultimately responsible for ensuring that a proper assessment

ROUTE OF INFECTION ...



... THROUGH DEEP INHALATION OF THE BACTERIA INTO THE LUNGS

is carried out and he should have access to competent help.

Where the assessment shows that there is a reasonably-foreseeable risk, the part of the system where the risk exists should be avoided as far as is practicable. Otherwise, a plan to tackle the risk should be introduced, which includes all diagrammes, system operating details, and the precautions to be taken. The risk assessment helps to identify these precautions. The effectiveness of any remedial action should be monitored and the checks and their frequency should be documented.

The following measures would prevent the proliferation of legionella bacteria and reduce exposure to water droplets and aerosol:—

- Controlling the release of water spray;
- Avoid legionella growth temperatures;
- Avoid water stagnation;
- Avoid the use of materials that harbour bacteria or provide nutrients for growth;
- Maintain system hygiene;
- Ensure the correct operation of the system.

Record keeping

The responsible person should record the following:—

- The person or persons responsible for conducting the risk assessment, managing and implementing the written scheme;
- The significant findings of the risk assessment;
- The written scheme describing how the risk is to be controlled and the implementation of the scheme;
- The results of all tests, inspections, etc and details of the state of operation of the system.

Records should be retained for two years after their expiry. Records of monitoring results inspection results, checking, and routine operations should be kept for five years.

A course on Legionnaires' Disease will be presented by Mike Knight and Dr John Alvey at DIT Bolton Street in Dublin over the coming months.

Contact: Mike Knight.
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email: mikeknight@blueyonder.co.uk

Engineered HVAC Solutions

INNOVATION
FLEXIBILITY
PERFORMANCE



MARREN
ENGINEERING

ENGINEERED FOR FLEXIBILITY & PERFORMANCE



Peter Meldon, Director with Tom Marren, Managing Director; Robert Kelly, Contracts Manager and Malcolm Goggin, Sales Manager

That Marren Engineering and McQuay International should form a trading partnership was, perhaps, inevitable. Both are engineering-based companies with McQuay to the forefront in the design and manufacture of air movement products, and Marren well-established as a leader in devising engineered air conditioning and refrigeration solutions.



Tony Duffy, Maintenance Manager with Mark Smith, Construction Manager and Mark Dunne, Commissioning Manager

There are three distinct operational centres within Marren Engineering, the company formed by Managing Director Tom Marren in 1998. These are Marren Contracting, which handles the supply and installation of leading-brand products such as Mitsubishi Electric and Edpac; Marren Sales, which is responsible for the supply only of equally high-profile brands such as McQuay; and Marren Maintenance which, as the name implies, is the after-sales and maintenance arm of the company.

What underpins each operational activity, and cements and strengthens their inter-trading, is adherence to a strict code of engineering excellence. Tom Marren is a fully-qualified building services engineer who, from the outset, emphasised the importance of providing engineered air conditioning and refrigeration solutions. This engineering ethos is now endemic throughout the entire company and dominates all its activities.

The result is utter professionalism. With 37 direct employees and 13 service vehicles on the road, Marren Contracting, Marren Sales and Marren Maintenance represent the cutting-edge of Ireland's building service sector. All employees are highly-qualified; undergo regular educational updates; work according to clearly-defined management structures; adhere to strict operational procedures; and carry out their duties in accordance with recognised Best Practice in respect of safety and environmental issues.

That said, this emphasis on quality does not result in an austere, rigid service. Flexibility and even friendliness are the hallmarks of working with all three of the Marren operational centres. Nothing is too difficult, nothing is insurmountable ... a solution can be devised — and provided — no matter what the circumstances. Moreover, it is done in a cost-effective, energy-efficient, and environment-friendly manner.

Trust in the Marren experience for engineered solutions, flexibility, and performance.

MARREN
ENGINEERING

McQuay
Air Conditioning

 **MITSUBISHI**
ELECTRIC
AIR CONDITIONING SYSTEMS

 **EDPAC**

Chillers



With an ultimate phase-out date for R22 already agreed by the entire industry, McQuay considered two options — HFC 134a and HFC 407C — when developing its latest range. Though HFC 407C refrigerant was the easier and cheaper solution, the huge advantages offered by HFC 134a were too evident to be ignored. These include higher efficiencies, greater performance, lower noise emissions and less environmentally harmful. Hence the decision to go this route.

Scroll Chillers — 8kW to 145kW

McQuay air-cooled scroll compressor chillers deliver high energy efficiency for reduced operating costs, and low noise emissions. Advanced compressor technology provides quiet, efficient operation while innovative controls provide easy integration with most building automation systems.

Reciprocal Chillers — 150kW to 1600kW

McQuay's water-cooled chillers allow refrigeration systems to be installed in a mechanical equipment room, protected from the elements and easily serviced. Property line sound concerns are more easily resolved with an indoor chiller. Indoor chillers avoid freezing issues by keeping the chilled water systems within the building. Available as water-cooled unit or remote air-cooled.

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 load efficiency with a variable frequency drive. With the smallest footprint in the industry, McQuay single compressor centrifugal chillers optimise equipment room space and lower installation costs.

Absorption Chillers — 300kW to 5500kW

Absorption chillers are the perfect way forward given today's urgency in respect of energy and environmental conservation. They are incredibly efficient, using waste or on-site heat to generate chilled water by way of a chemical reaction. McQuay's 2-pass system is particularly efficient, delivering the best performance outputs and COPs in the industry. Specially-devised controls mean that the performance capabilities are maximised.

Screw Chillers — 300kW to 2000kW

Designed for quiet, reliable and efficient operation, McQuay air-cooled screw chillers help increase comfort and reduce operating costs in hospitals, offices and other buildings. Together with aerodynamic fan blades and low rpm motors, the chiller's unique single screw compressor design delivers low sound pressure levels that minimise background noise. Stepless control allows for smoother, more efficient performance when moving from 100% to 10%. The design is service-friendly with easily-accessible components and solid-state starters as standard.

SCROLL



SCREW



RECIPROCAL



DUAL CENTRIFUGAL



SINGLE CENTRIFUGAL





FAN COIL UNIT



VISION AHU



SKYLINE AHU



COMFORT PACA UNITARY UNIT



DESIGN SOFTWARE



Air Handling Units

The McQuay Vision air handler is a custom-modular platform that provides flexibility to build the exact air handling system required for optimal indoor air quality, high energy efficiency and quiet operation to fit virtually any space requirement. The cabinets can be specified in 50mm increments from 900mm to 3500mm wide, and from 660mm to 2800mm high. Variable cabinet dimensioning provides additional design flexibility and reduces installation costs.

Using McQuay Vision SelectTOOLS software, engineers can input required unit dimensions and specifications, and the software determines available sizes for fans, coils, filters, and other components to optimise efficiency and performance.

The new McQuay Skyline outdoor air handler also features a custom-modular platform and variable-dimensioning design, giving engineers the flexibility to meet project requirements for indoor air quality, operating efficiency, and low cost installation and maintenance. Units can be specified from 0.5m³/sec to 15m³/sec.

The custom modular platform allows engineers to mix and match factory-option components to configure systems that meet individual job requirements. Multiple fan and filter selections are available, as well as multiple coil face areas per unit size, piping vestibules, blenders/air mixers, sound attenuators and manual sections to accommodate special components.

Unitary Products

McQuay ComfortPac packaged terminal air conditioners and heat pumps are the first in the industry to offer solid-state electronic touch-pad controls as standard features. Designed for zoned heating and cooling, the units provide an exact temperature setting and deliver quiet, efficient temperature control in hotels, health care facilities, apartments, retail centres and offices. The range also includes water sourced heat pumps and fan coil units, giving McQuay the broadest spectrum in respect of cooling/heating capacities in the industry.

Energy Programme Design Software

The unique McQuay software programme helps consulting engineers design cost-effective air conditioning solutions. It is highly-complex and sophisticated, yet simple to operate. Apart from performance data such as COPs and applications, the programme also covers energy analysis, environment impact data, and information on carbon tax and energy tax implications.



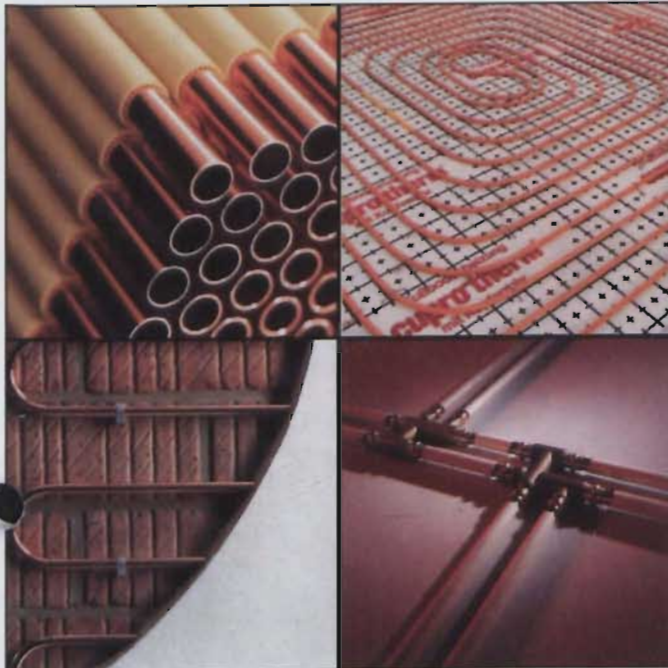
Marren Engineering Limited

1 The Seapoint Building, Clontarf, Dublin 3

Tel: 01 - 833 4144 Fax: 01 - 833 4182

Email: info@marrenengineering.ie

Copper Tubes For Underfloor Heating



Cuprotherm floor heating — Cuprotherm is a complete system of copper tubes for the installation of area and floor heating projects. Benefits are that it is quick and easy to install; is corrosion-resistant; resistant to heat and cold; and is extraordinarily durable.

Cuprotherm heating tubes are not damaged by uncontrolled increases in heating water temperature. They are maintenance-free, resistant to heating water additives such as oxygen-bonding substances and wetting agents, and are absolutely gas-proof.

Oxygen diffusion through the tube wall into the heating circulation does not occur, while steel parts — such as the furnace and distributor — are also protected against corrosion.

Cuprotherm HKA — This is a modern heating element connection system comprising just a few, precisely-fitting, components. Specially developed for heating element connections, it is manufactured using high-grade copper and coated in plastic. It is supplied in coils. Installation is quick and trouble-free, behind plaster or in floor screeds.

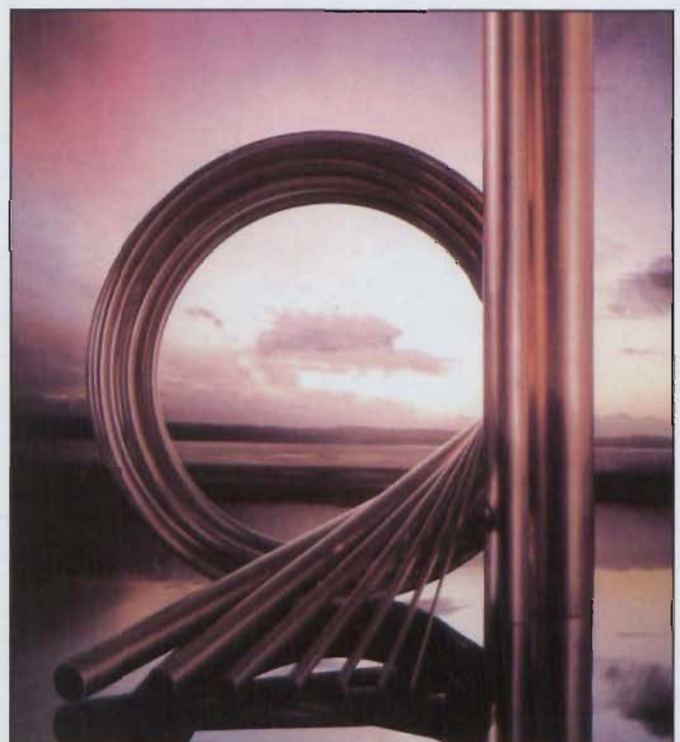
The other system components are junction pieces, floor screed distributors and wall distributors, as well as accessories for every type of connection. All connections can be made from the floor or wall.

For the renovation of old buildings, the tubes can be installed with special fittings in a concealed baseboard. *Hypoplan wall heating system* — Featuring all the advantages of the Hypoplan climate plate, the KME wall heating system can also be retrofitted to serve as a room cooling system. The copper tube registers are covered in wet plastering by a mineral

plaster material. This combination of materials offers excellent heat transfer, short warm-up times and perfect heating control.

The Hypoplan wall heating system can be easily adjusted to match the individual requirements of every room; it has low energy requirements; and does not require servicing. These combined features and benefits open the way for a whole range of room design options otherwise not available.

Contact: Conor Lennon, Irish Metal Industries.
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UNDERFLOOR HEATING

Underfloor Heating from Heatmerchants and REHAU

Heatmerchants and REHAU have been working closely together since 2002 to bring together a first-class service in the supply of underfloor heating in Ireland — for both domestic and commercial installations. Over this time project design and development teams have been established, a sales network has been developed, along with installer training programmes, and an approved installer panel.

Support is provided in the form of on-site visits and training, and the fact that technical support for the large network of installers is only a phone call away.

REHAU has over 25 years experience in underfloor heating and supplies high-quality systems suitable for a wide range of applications, one of the reasons why Heatmerchants decided to sell and distribute the REHAU system.

Over the years REHAU has extruded and installed millions of meters of its Pe-Xa pipe. Pe-Xa pipe is manufactured from cross-linked polyethylene and

has a co-extruded eval oxygen diffusion barrier. It is quite simply one of the best pipes available on the market and is widely recognised across Europe as the most “fit-for-purpose” material for underfloor heating.

REHAU’s fittings are manufactured from DZR brass and over 40 million have been installed. Their manifolds are manufactured from high quality brass, the main body being a one-piece design. A compact mixer and a range of controls that simplify the operation of the underfloor heating system are also available.

The difference in choosing an underfloor heating system, supplied by Heatmerchants, is that each project is specifically designed. It is project driven and supported to a high level. Typical installations include domestic housing, sports halls, community halls, nursing homes, crèches, refurbished old cottages, factory outlets, showrooms, etc.

To support the REHAU underfloor heating system, Heatmerchants offers a wide range of options for high-efficiency boilers



from the Baxi or Keston commercial ranges; high-recovery calorifiers from Assos; and wireless controls from Danfoss.

At present, Heatmerchants stocks over 150 REHAU products and aims to see its stock holding and warehousing operations expand even further. Along with the REHAU underfloor heating system, Heatmerchants also stocks its flexible pipe system that is suitable for all types of plumbing and central heating applications. Once again, Pe-Xa pipe is



the main component part of the system, with 16mm, 20mm, 25mm and 32mm fittings being available. However, larger sizes — 40mm, 50mm, 63mm and 75mm — are available on special order. Feedback to date on the flexible pipe system has been excellent.

A new REHAU product recently brought into the Heatmerchants’ range is the pre-insulated pipe system for below-ground application called RAU-THERMEX. This is available from stock in 25mm and 32mm Duo.

However, a variety of other sizes are available to order, in the Duo (flow and return) and the Uno (single pipe).

Applications include, heating flow and return, hot and cold potable water, secondary water supply and secondary water circulation. On the underfloor heating side of the business Heatmerchants, now stocks the REHAU — “Smartsystem 16” which is a system designed for the conservatory and small extension market. The system is designed to run directly off the existing heating system within the property and is extremely easy to install.

Heatmerchants’ aim is to supply the Irish market with high-quality products that are supported with a high level of technical support and training. Working closely with REHAU it is well on the way to achieving this aim.

Contact: Andrew Lightbody or Stephen Sheenan, Heatmerchants Underfloor Heating Engineers.

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 Tel: 056 - 776 2244;
 Fax: 056 - 772 1209
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Honeywell Underfloor Heating Control



At first glance, picturesque West Mill Cottage is a nostalgic vision of a bygone age before pumped central heating, thermostats and motorised valves. But a peep inside this extensively refurbished and extended home reveals a complex, specially-designed heating system that uses a 90,000 Btu Worcester boiler to provide underfloor and radiator space heating in four separately-controlled zones, as well as domestic hot water.

The entire installation and its controls were designed and installed for superior comfort and reliability. "All system components — including the boiler — are carefully hidden from view, using roof space and a boiler room constructed under extended eaves at the side of the cottage," revealed Neil Austen of The Stove Shop, who carried out the project.

Honeywell programmers and valves were used throughout and, to avoid drilling the walls and decorations, two of the home's three Honeywell CM67 programmable thermostats have the wireless RF option. The four central heating zones are:—

- The main house, heated by radiators;
- A 45 sq m lounge with underfloor heating;
- A kitchen and conservatory with a total floor area of 70 sq m, heated with radiators, a 4-oven AGA, and an AGA Companion;
- The towel rails, which operate through a dedicated 40-litre reservoir cylinder, governed by a thermostat and motorised valve.

Domestic hot water is normally heated by the home's AGA cooker and "topped up" by the boiler when necessary. An

immersion heater is provided in reserve. "We installed a high efficiency unvented hot water storage cylinder, specially-built with two heating coils," explained Neil Austen. "The lower coil is fed from the AGA via a gravity circuit, which provides enough hot water for most circumstances, while the higher coil is fed by the boiler. A Honeywell cylinder thermostat senses the temperature of the cylinder and initiates a short burst of boiler heat, ensuring the boiler runs efficiently. A pumped recirculation loop reduces wastage and ensures prompt delivery at the taps."

The domestic hot water and four heating zones are each regulated by a motorised valve, housed in the boiler room with the main controls.

The electrical controls required special expertise and attention to detail so, for their design and installation an independent electrical specialist was used.

A Honeywell ST699 timer provides two timing functions. Its first channel allows the boiler to boost the domestic hot water during two periods each day by opening a motorised valve via the cylinder thermostat. The second channel provides a single daily "on" period for both the domestic hot

water recirculation pump and the towel rail circuit. A pipe thermostat fitted to the domestic hot water recirculation return is set to switch the pump off at 55°C, so reducing heat wastage by preventing hot water being pumped round unnecessarily.

Stove Shop installed the towel rail circuit as a separate zone at the householders' request. Special attention was necessary to prevent bathroom users being harmed by hot towel rails, which would have happened if they had been heated to the temperature of the boiler, 75°C. It was also necessary to prevent the boiler cycling frequently due to the small demand from this circuit. The solution was to provide a small indirect cylinder — in effect, a thermal reservoir — with pumped circulation to the towel rails via its high recovery coil. In this way the cylinder thermostat controls the towel rail temperatures indirectly and there is sufficient demand for the boiler to run efficiently during the short periods required to keep the towel rails satisfied.

Contact: Honeywell Control Systems.
Tel: 00 351 1344 656000;
email: literature@honeywell.com

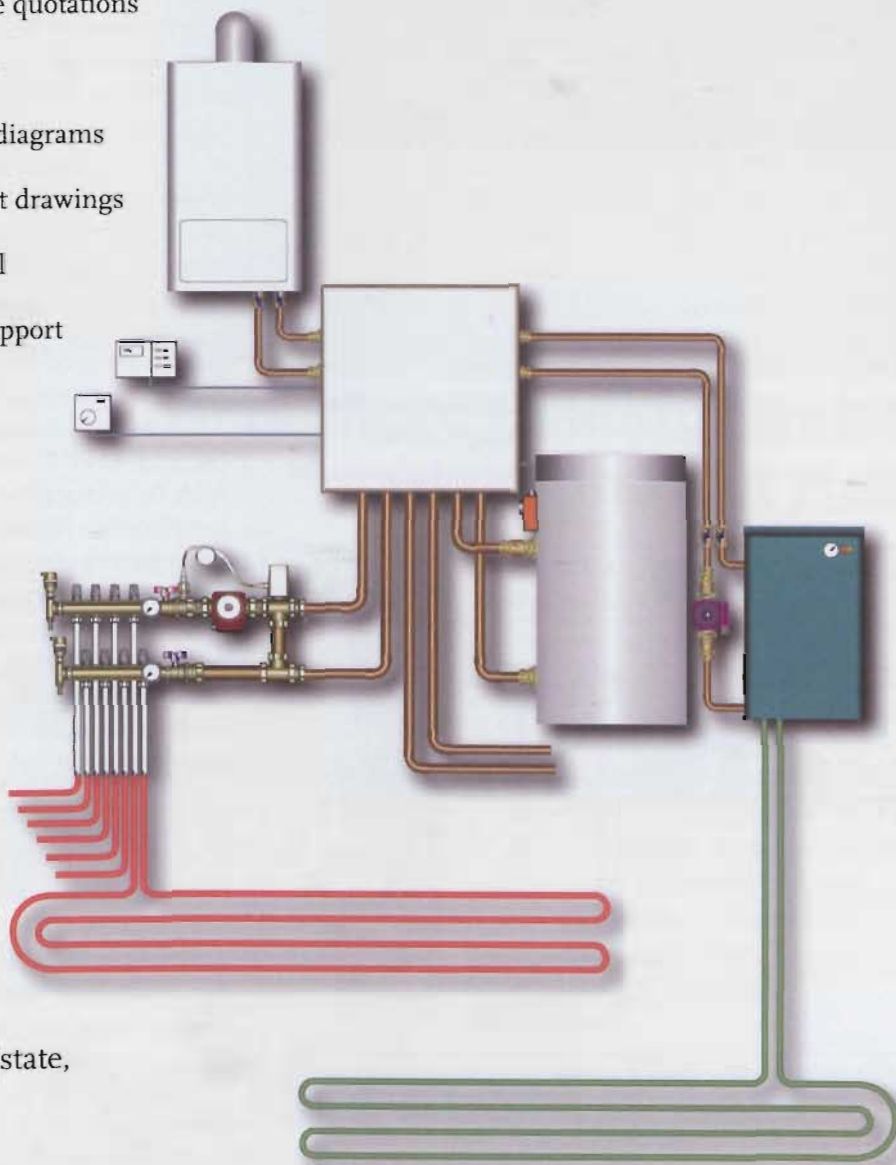
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Danfoss ECL Controllers for Heating Systems

The new Danfoss ECL Comfort Controller range strengthens the scope of applications solutions from Danfoss Ireland in relation to underfloor heating, radiators and ventilating systems. It consists of three controller series:—

- Traditional analogue unit ECL100M for small and simple heating systems;
- Digital ECL 200 for small systems requiring digital display;
- Digital ECL 300 with an exceptional application scope for larger systems.

Additionally, the range includes remote ECA room controllers.

Danfoss ECL controllers enhance the control of underfloor heating systems and traditional radiator heating systems, controlling the system as the out-side temperature varies. Principal features and related benefits

include:—

- Optimiser;
- Year clock and automatic changeover between summer and winter;
- Return Limitation;
- Weather compensated return temperature limitation;
- Max/Min flow temperature limitation;
- Frost protection;
- Heating cut-out;
- Night set back;
- Hot water services priority.

The introduction of the ECL range complements the already-extensive controls portfolio which includes Danfoss easy-to-install, self-acting temperature controls. These are ideal for individual floor-heated rooms or smaller mixed underfloor/radiator systems. These controls — Danfoss FHV valves fitted with either FJVR or RA2000 sensor elements — provide the most simple, cost-

effective and accurate way to achieve either constant floor surface or room temperature.

Underfloor heating, with annual market growth of 20 - 30% a year, is fast becoming a significant and profitable part of the Irish heating market that installers cannot afford to ignore. Firmly established in mainland Europe for three decades, it offers a number of user advantages over conventional "wet" radiator systems.

Perhaps the most important of these is that underfloor heating greatly enhances comfort levels by spreading warmth evenly across the entire room and from the floor upwards. Also, without the need for radiators, it provides additional usable room space, improves interior aesthetics, eliminates a major problem in room redecoration, and allows greater flexibility with furniture placement.

A return-mounted Danfoss FHV-R valve with its self-acting FJVR temperature limiter is a long-proven control method that is easy to use and simple to install. It requires no wiring, is completely trouble-free, costs nothing to run and provides the most satisfactory, energy-efficient modulating control, providing a constant floor surfacing temperature. This is a very important feature in, for example, bathrooms with ceramic tile floors. No other controls can do this in the same way.

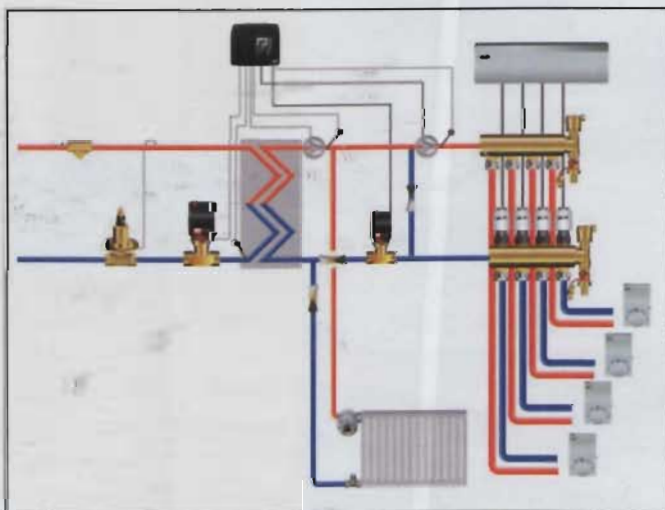
With the FHV-R and the

FJVR sensor, small underfloor heating systems, e.g. for extensions, bathrooms or conservatories, can be added directly to existing radiator systems very easily and can be a source of valuable additional earnings for installers.

The Danfoss FHV-R, used in conjunction with the plug-on FJVR sensor element, is a basic two-connection valve that is supplied in two versions — with an air vent and bleed key. The two similar FHV-A models, used with the widely-proven Danfoss RA2000 sensor, provide accurate room temperature control plus the additional advantage of being quickly and accurately pre-settable for the correct flow rate. All products are supplied with compact, customised and easy-to-fit wall enclosure boxes and covers within which the valve fits and all connections are made. A special optional mounting tool equipped with a spirit level is available if desired.

Danfoss, unique with its long UFH experience and in being able to provide the total range of underfloor heating controls, can be relied upon for proven products and quality support. Details of FHV valves and other controls are available on request.

Contact: Brian F. Maguire, Danfoss Ireland. Tel: 01 - 626 8111; email: marketing@danfoss.ie



Danfoss ECL controllers enhance the control of underfloor heating systems and traditional radiator heating systems, controlling the system as the out side temperature varies



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Myson Expands Into Underfloor Heating

Myson Radiators is a leader in the supply and manufacture of a wide range of heating appliances, including panel and decorative radiators, fan convectors, towel warmers and valves. However, it is now also emerging as a major player in the growing underfloor heating market.

Underfloor heating is a method originally utilised by the Romans but now Myson is using the latest technology to bring the system up-to-date.

Advances in new material technology and research into heat transfer have made it possible to achieve cost-effective warm water underfloor heating that provides both energy efficiency and high quality performance.

Underfloor heating has become an increasingly popular choice and is now widely acknowledged as one of the most effective methods of obtaining uniform heat distribution and high comfort levels. It also has numerous benefits. Some select it for its delivery of heat at low level, while others enjoy the design freedom it gives owing to its concealed pipework. The system also has low maintenance costs and frees up valuable wall space.

The Myson underfloor heating system can be used in all floor areas and is ideal for glazed rooms

such as conservatories where there is little or sometimes no wall space. It is suitable for use with all types of wet central heating systems including gas, oil or solid fuels and conventional, combination or condensing boilers. It can also be introduced into mixed heating systems, for example, underfloor heating could be used on the ground floor with radiators upstairs.

To work effectively, underfloor heating requires water temperatures of between 45°C and 55°C. This is easily obtained by blending flow water and return water from the underfloor with the thermostatic mixing facility supplied. Systems can either be simple loop for an individual room up to approximately 16sqm floor area, or double or multiple loop systems for larger areas.

The Myson underfloor system is designed for all floor types. The most popular system utilises screeded floors. It comprises an edging strip, which is laid against all external and internal walls, providing both edge insulation and an expansion zone for the screed.

Flatjet insulation is laid onto the concrete slab and a flow and return manifold is fitted in a central location. Difustop cross-linked polyethylene pipe is connected to the flow manifold and is then laid out in the required



Myson underfloor heating is a highly-efficient system which allows complete design freedom and includes pipe, insulation, sensors, controller, actuator and valves

pattern. Myson supplies the recommended heating layout pattern. The pipes are held in place with U-clips and finally the pipework is connected to the return manifold.

Myson underfloor heating systems are suitable for most floor finishes, including ceramic tiles, timber and carpets. However, some modifications need to be made for certain surfaces. For example, a flexible adhesive should be used on ceramic floor tiles and it may sometimes be necessary to include a reinforcing mesh in the top quarter of the screed. This will accommodate the expansion and contraction of the floor due to heating and will avoid cracking of the tiles.

With plastic surfaces, the floorcovering and the adhesive used should be suitable for temperatures of 40°C.

Both wood and carpets will restrict the heat transfer and this must be taken into

account at the design stage. When using timber, it is essential that one with a low moisture content is used. If a timber with moisture content of more than 10% is used there is a risk of shrinkage during heating, resulting in gaps between the planks. Carpet and underlay combinations must not have a thermal resistance of greater than 1.5 Tog. Also, if carpets are to be stuck down, the adhesive used must be suitable for temperature of up to 40°C.

Myson offers a complete heating design service, which specifies underfloor pipe layouts, controls and boiler applications. This results in a unique integrated heating system with a performance guarantee supported by Myson's expertise.

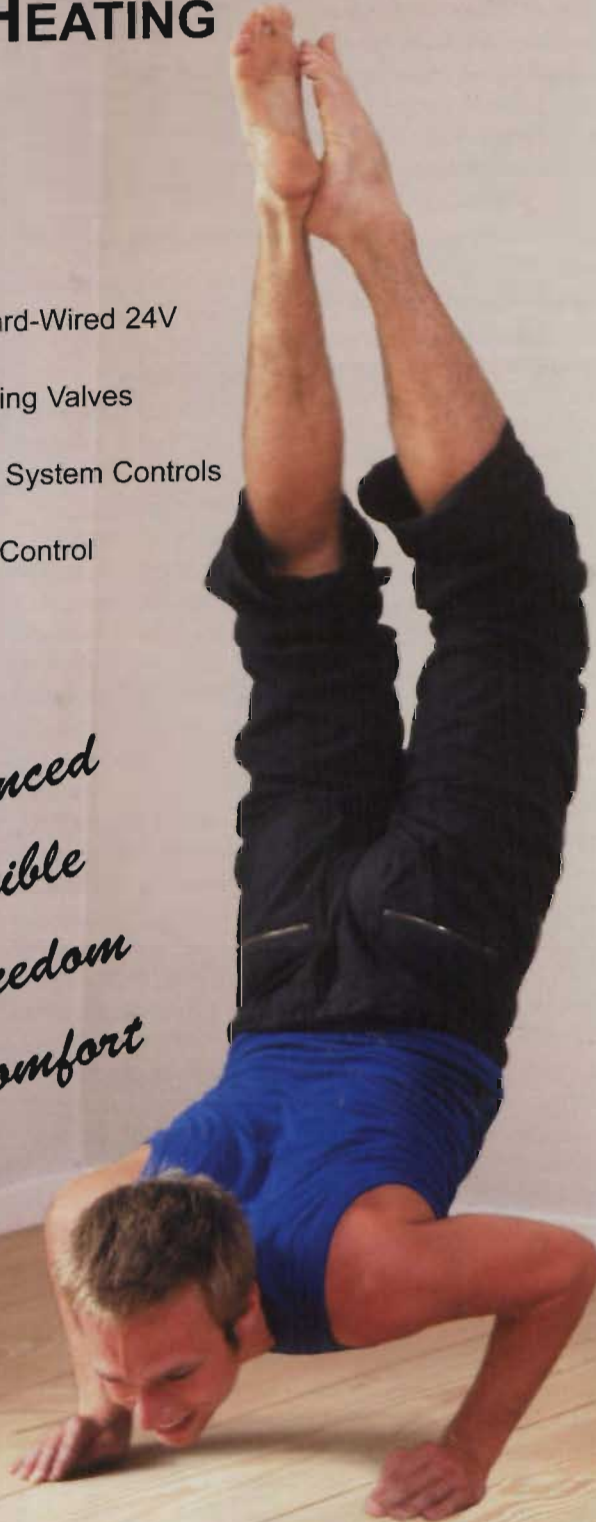
Contact: Vincent Broderick, Potterton Myson.
Tel: 01 - 459 0870;
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Danfoss

UNDERFLOOR HEATING

- CF-systems (CFM) Wireless
- FH-Wx systems (FH-WC) Hard-Wired 24V
- FHV) Self-Acting Floor Heating Valves
- ECL Weather Compensation System Controls
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Engineering-Based Solutions from SystemLink

Highly-technical based and with an established reputation for providing engineering-led heating solutions, Systemlink Ltd is now making inroads into the underfloor heating sector.

"Underfloor heating is a fast-expanding market", says Systemlink CEO Shay Moran. "With annual growth of something like 20% and a limited number of suppliers, it was an obvious business for us to target. We quoted for our first project in December 2002 and had our first order in January 2003. Since then we have gone from strength to strength.

"With our engineering-based structure — over 50% of our employees have engineering and technical qualifications — underfloor heating is the perfect complementary market for our established product ranges. We have our own in-house R&D team which includes fully-qualified mechanical engineers who can devise all-embracing heating solutions including full drawings, costings, installation layouts, etc.

Systemlink provides all the necessary products and components, from the SystemLink HydroPex underfloor heating pipe right through to the SystemZone and SystemLex zoning control devices, the SystemLink manifold distribution system, and the actual heat source.

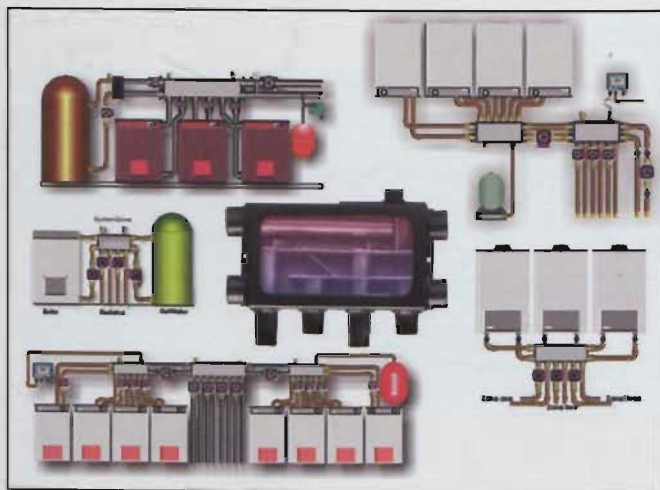
Systemlink HydroPex

comes from a world-leading manufacturer for whom Systemlink is exclusive distributor in Ireland. Using "Pexal" pipe — which comprises a 3-skin combination of a polyethylene inner and outer skins wrapped around a welded aluminium inner core. It is quick and easy to fit; holds its shape when bent; and can withstand higher pressures than would ever be experienced in a home or office. Its design life is for in excess of 50 years.

The pipe is laid in a continuous loop for each zone, ensuring that there are no underfloor joints anywhere in the system. This is simple to do as it is supplied in lengths of 100m, 200m and 500m.

The SystemLink manifold is critical to the operation of the heating system as it handles all technical and distribution aspects of the system in a reliable, efficient way. Programmable controls mean that each room can have its own circuit and be controlled individually by hard-wired thermostats, or compact radio devices, mounted anywhere in the room. The installer sets the system at commissioning stage leaving the user to control individual comfort levels.

Underfloor heating works at low temperature with all heat-generating equipment. It is most appropriately combined with low temperature output systems such as high-efficiency (condensing) boilers and,



SystemLink provides a comprehensive end-to-end solution

particularly, heat pumps. These products can also be supplied by Systemlink.

That said, most end-users require a mixed system, especially in homes. Because underfloor heating provides a constant heat source, the common practice is for homes to use combined systems with underfloor heating at ground level and radiators at upper level, particularly in bedrooms, for added individual flexibility. Here again Systemlink has the solution in the Conserver Solo fan coil radiator. Typically, conventional radiator systems work on 82°C water temperature so, with underfloor heating operating off 40°C, special mixing valves are required. However, the Solo fan coil unit also operates off 40°C, making it the ideal complement to underfloor heating as only one heating temperature is required.

In essence, Systemlink provides the contractor with a total end-to-end solution.

"In explaining underfloor heating to potential end-users, both

contractors and consultants must fully explain the concept and deal with the issues of relevance", concludes Shay Moran. "Unfounded fears in relation to the use of flooring materials, especially timber, must be dispelled. It is also important to convey the comfort benefits and payback time in energy performance over the working life-cycle of the installation.

"On average, a properly-designed and installed underfloor heating system delivers energy savings of anything up to 35% over conventional heating systems. It is also far more environment-friendly. If suppliers to this market sector present the case properly and provide professional advice and installation services, I'm confident that growth levels will increase significantly over the coming year."

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Cork Office: Harry Rea.

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Polytherm — Warmth Everywhere It is Needed

Polytherm Heating Systems Ltd was formed in 1999 following the success of the underfloor heating division of its associate company Hevac Ltd. Polytherm systems and components are based on top German technology and experiences over many years. Since its inception it has successfully introduced a wide variety of solutions for the residential, industrial and commercial underfloor heating sector. It has also provided an innovative and time-saving solution for plumbing and radiator connections with the Polyfix pipe-in-pipe system, as well as insulated piping systems for district heating.

The Polytherm system can be installed under virtually any floor covering, such as treated wood, carpet, marble or tiles. Due to the low energy demand underfloor heating systems are extremely efficient, especially when used with condensing boilers, solar panels or heat pumps.

Underfloor heating is comfortable at water temperatures of 30-40° C as opposed to 60-70° C with normal conventional systems and the lower heat losses make underfloor heating the most

efficient type of space heating on the market today. For commercial and industrial applications the savings can be even greater.

Underfloor heating offers numerous aesthetic possibilities, as there are no obtrusive radiators.

It is a well-known fact that underfloor heating creates a healthier indoor climate by drawing moisture away from the floor area. A dry floor is the most inhospitable environment for household mites, fungus spores and other allergens. Polytherm offers the complete quality system solution, in addition to a comprehensive system warranty, which includes not only the pipes and components, but also the entire underfloor heating system.

The Polytherm system is a proven brand that has achieved every possible European Standard and accreditation. When you choose Polytherm you have a system that is tried and tested and favoured throughout Ireland by installers, householders and specifiers alike. In short Polytherm stands for quality, reliability and security.

The most successful floorheating system is the Polycomfort®



System. With its integrated insulation and piping system, the floor panels overlap and interlock together to form a completely sealed and rigid floor surface before final screeding. Heat losses downwards are negligible.

Polydynamic® is a modern system that can be installed in a low floor build up of about two inches. It is ideal for new build, refurbishment and wall heating alike.

Polypanel® is the latest system to arrive. This too has made a big impact, particularly in new build and refurbishment projects. With this system underfloor heating can easily be installed in joisted floor situations with minimal fuss, no notching, no screed and no added weight. With Polypanel® floor levels may only rise by as little as 12mm above normal levels for conventional systems. In addition all floor coverings are possible.

Wall heating® is also growing in popularity. It has special advantages when householders are faced with lack of floorspace to use standard UFH. Wall heating is used in swimming pool areas, sports facilities, bathrooms, residential care facilities and as regular heating in homes.

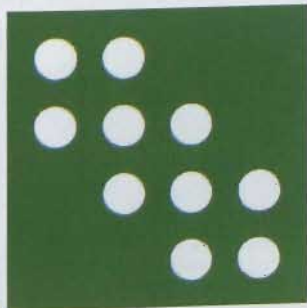
Heating of sports halls is common now with underfloor heating. With a sprung flooring system under floor heating can enhance the safety to athletes by reducing "cold start" injuries to a minimum. Outdoor heating to pitches, ramps for vehicle access and keeping yards free of frost and ice is also possible with Polytherm's Polydefrost® system.

In short, Polytherm has an underfloor and wall heating solution to suit virtually every conceivable requirement.

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Unipipe — The Original of the Underfloor Species!

Unipipe (Irl) Ltd, based in Southern Cross Business Park, Bray, distributes Uponor's premium brand of piping, Unipipe Systems with multi-layer composite pipe technology. The Unipipe Systems range also includes solutions for other areas of heating, water services, compressed air, etc, and pipe sizes now go up to 110mm diameter through all common sizes. Unipipe is rated at 95°C/10 Bar and can accommodate short-term loads of 110°C, making floor heating one of its least stressful applications.

Unipipe has its roots firmly in the floor heating business, owned and run by Paul O'Donnell who fitted his first floor heating system in 1983. "When I first came across Unipipe, it was the aluminium oxygen barrier and the ease of

fitting that attracted me (the pipe is form-stable because of the metal layer and doesn't spring back up when laid); there was no other product like it in Ireland. Although we no longer fit floor heating, coming from an installation background gives us an edge in providing practical advice to the end user, engineers and contractors.

"While our initial interest in Unipipe was for floor heating, other applications naturally followed and Unipipe is now practical and cost saving to use over traditional steel or copper. Unipipe's press-fit system allows a contractor to join the pipe with 100% reliability in about five seconds, so the labour savings are enormous. Also, there are no flames, welding, or even dirt from threading."

For hot and cold-water services, radiators etc, Unipipe now also has 16/20/25mm piping available in pre-insulated rolls...one of those things that is so obvious that one wonders why someone didn't think of it before".

Unipipe has a strong network of recommended installers throughout the 32 counties and provides ongoing training on system and control technology, as well as heatpumps. Unipipe (Irl) is distributor for Europe's largest manufacturer of heat pumps, Nibe Heating from Sweden. Given the low water temperature needs of a floor heating system, ground-source heat pumps are ideal. Heating and cooling can be catered for. Nibe also manufactures domestic exhaust air heat pumps, and a new range of air-to-water externally-fitted machines. Nibe's heat

pumps also work with radiators and all models come with on-board pumps for both heating medium and collector fluids. Weather compensation and floating condensing technology are on all models. The control computer in the Nibe heatpumps also allows control of other supplemental or existing forms of heating such as oil or gas.

The most common heat pumps are the ground source where energy is harnessed from surface soil, but can also be taken from lakes, rivers and boreholes. Unipipe provides borehole depth and collector size calculations and, through the Uponor connection, now stocks special Uponor Energiesysteme polyethylene piping, fuse-weld fittings, borehole equipment, etc. Collecting heat from boreholes is expensive in the initial



Another Uponor lake collector, this time fitted onto the lake bed before filling; in this instance a fast flowing stream continuously replenishes the heat taken in by the heat pump. The 600m² house also has Unipipe floor heating throughout

UNDERFLOOR HEATING



Gathering energy for a large 20,000 sq. ft. house and swimming pool is 8 Kilometres of Uponor Energy Pipe; laid out on the shore initially, floated out onto the lake, then sunk (by plumbers in canoes!)

● tlay, but often it's the only solution in large or existing buildings. There is now a grant of Stg£1200 for householders switching to heatpumps in Northern Ireland and the UK (Unipipe's Nibe heat pump has been approved for grant status there). Through Sustainable Energy Ireland (www.sei.ie) there are also grants available in Southern Ireland, but unfortunately not for individual homes.

● "Floor heating was treated with great suspicion at first and there was an initial reluctance in the construction industry professional sector to switch. So, we initially targeted the self-build market and this was a great success for us. Having gained a

dominant marketplace position in the business of heating one-off homes, we are now starting to get developers with multiple house and apartment projects switching to floor heating or offering it as an optional extra.

Want to know more? Unipipe's new heat pump warehouse and training facility will be opening in November this year. The building will be heated from a borehole and visitors (by appointment) are welcome. Unipipe also runs training trips to Nibe Sweden on heatpumps, and in-house or on-site CPD courses on their products.

Contact: Paul O'Donnell, Unipipe. Tel: 01 - 286 4888; email: paul@unipipe.ie.

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The Trane Helirotor™ Screw Compressor

The Trane Helirotor™ screw compressor is recognised as one of the most reliable on the world air-conditioning and refrigeration market with 300,000 units sold over a period of 15 years. The compressor is at the heart of the equipment. It is the most important part, and its performance determines the overall performance of the installation. Bearing this in mind Trane developed its own compressor that has the following features:—

- Only three moving parts, 15 times fewer moving parts than in a reciprocating compressor;
- It is capable of withstanding accidental liquid slugging, unlike a reciprocating compressor that risks being damaged;
- It uses low-speed direct transmission. This provides more efficiency at every level of power;
- The compressor is less noisy and has a longer life span;
- The rotor profile is optimised for better performance and less vibration;
- The “star/delta” start-up configuration considerably reduces start-up load;
- The compressor is designed not to require an oil pump,

- so it has one less moving part;
- Compressor bearings are matched to the lifespan of the chiller, when used for comfort air-conditioning;
- Shock-absorbers have been added to the base of the unit to reduce noise and vibration;
- The compressor requires the smallest amount of oil on the market (5 to 9 litres per compressor), thus substantially reducing the cost of routine maintenance and overhaul.

Unlike many of its competitors, the Trane Helirotor™ screw compressor adapts itself precisely to the load providing an energy saving on the operating costs of over 5%.

It is designed to eliminate the need for significant mechanical repair during the life-time of the chiller, where it is used for comfort air-conditioning. The longevity of the bearings is maintained by the low rotation speed of the rotors (direct transmission).

Trane made the strategic choice of offering a single level of technology to its customers for this type of chiller. The alternative range of reciprocating chillers is less expensive but less efficient, less reliable, less durable and noisier – so it has been discontinued.

Furthermore, the Trane Helirotor™ screw compressor has been designed for use with R134a, so that the operation does not affect the ozone layer. High energy efficiency is achieved while these types of systems minimise any indirect contribution to the greenhouse effect.

Trane chillers are not just machines, but are controlled by a microprocessor making them into intelligent equipment, capable of taking decisions in order to initiate corrective action. The Trane microprocessor uses Adaptive Control™ integrated logic and is claimed to be the most advanced chiller controller currently available in the industry.

In addition to the standard control module functions, Adaptive Control™ incorporates an internal logic capable of monitoring the functioning of the chiller and keeping it on line under abnormal conditions, at a point

where other chillers would simply shut down by default.

To be more specific, the control module keeps the unit going for as long as possible, even when certain parameters are extremely close to the cut-off point. The equipment thus produces its own intermediate level of adjustment, somewhere between the normal operating mode and the cut-off threshold, a sort of operating limit.

Consequently, unexpected stoppages for safety reasons, especially during periods of high demand, are limited. The chiller will only stop working if both the operating limit has been exceeded and the cut-off threshold has been reached, and even then, only after every type of corrective action has been attempted.

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The Trane™ Helirotor™ screw compressor — which lies at the heart of Trane equipment — is recognised as one of the most reliable on the world air-conditioning and refrigeration market with 300,000 units sold over a period of 15 years

Sanyo Zoom in Wicklow Forest!



Manian Hughes kicks up some dirt!

As Sanyo Air Conditioners' guests arrived at the Red Cow Hotel to board the mini-bus to a secret location, the atmosphere was light and jovial with everybody intent on enjoying the outing on what was a beautiful day.

However, when they arrived at their forest destination and saw that the roads had been closed with the assistance of the Garda and Coillte the tension began to mount. They were greeted by Austin McHale and his team manager Alan Binley and, when Austin commenced a few demonstration turns and twists in the rally car, the jokes became more strained and the laughter more nervous.

Everybody wore full race suits and helmets, and it was as close to the real thing without actually being in a competition. There were a total of 11 marshalls placed around the stage with a full Garda presence to ensure maximum safety. Everybody was given pace notes to attempt to read but no-one got past the first line!! The track was a pure rough gravel surface with bends and hair-pins and jumps, and rocks flying everywhere.

Bryan Keaveney was up first and everybody cheered as he got into the car. When he returned he was "speechless". The car was achieving speeds of 135mph around the 4-mile stage and jumping 6ft to 8ft at some points. Austin was not holding back. "When you rally, you rally...there are no half measures!" quoted Austin.

Ray Gohery got out of the car and could only use one word "stunning", he proclaimed. Bryan Keaveney: "The best experience of my life ... pure raw excitement ... on the edge of my seat every second". Domnick Ward: "Better than sex...but don't quote me on that!!"

Final word from Barry Hennessy: "Great to offer something different, adding fun to the business and also a great rush and buzz to help forget the everyday pressures of business".



Alan Binley briefing the participants



Brian Keaveney holding his head after his run



Domnick Ward with his pace notes



Ray Gohery studies his pace notes



Corporate Social Responsibility



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The aim of Corporate Social Responsibility (CSR) is to add value to a company. It also enables a company to reduce its risk in different areas. It refers to the way a company addresses its social, environmental and ethical responsibilities – at the body corporate level.

CSR is seen to be the new “buzzword” in business, similar to previous buzzwords like EMS (Environmental Management System), QMS (Quality Management System), etc. However, you may be surprised to learn it came about a number of years ago and has only raised its head in Ireland in the last few years.

Initially it was devised to tackle abuses in a number of areas within third world countries. Over the last few years in particular it has become relevant for all companies in Ireland, particularly those on the stock exchange and those wishing to attract shareholders/investors. Good companies of course will already be operating well within the CSR ethos.

Some say that CSR is simply unnecessary and there are others who say it can produce direct benefits for a company and its shareholders.

There are numerous CSR drivers in the marketplace, including:—

- the board's responsibility to maximise the attractiveness of the company's shares;
- increasing CSR-related scrutiny from external companies;
- best practice reporting guidelines (e.g. ACCA);
- upcoming regulatory disclosure requirements in the UK, e.g. incoming changes in company law where companies may have to report on their environmental impacts in their Financial Review;
- and greater focus on corporate governance by both financial and non-financial bodies.

Leaving aside the arguments on whether or not companies should report on their CSR activities, there is one obvious impact to a company who sets about developing a CSR policy and that is added value.

As a result of commencing

the initial investigations a company can discover where it most needs to target; some companies can even see why their staff turnover is being effected.

There are already a number of guidelines in the market to enable companies to comply with CSR notably:

- FORGE Guidelines;
- FTSE4Good Index;
- ABI Guidelines;
- ACCA's
- Environmental/Social/Sustainability Reporting Awards;
- GRI Guidelines, Morley Fund Managements Guidelines;
- and the forthcoming AA100S standard on social and ethical accounting, auditing and reporting, (SEAR).

Why go down the standards route?

It is clear from market trends over the last 12-months that external clients, whether they are prospective shareholders, customers or other businesses, all ask the same question: “are your results subject to external verification?”

It can be easy at times for a company to produce a vague report with no verification on the figures; this will lead to a lack of professionalism and a reduced status in the marketplace.

Most CSR reports contain a statement from the company on their social responsibility, including how they voluntarily take on commitments, which go beyond common, regulatory and conventional requirements.



Companies commit to raise their standards of social development, environmental protection and respect of fundamental rights, reconciling interests of fundamental stakeholders in an overall approach of quality and sustainability.

So what does CSR entail?

There are four key areas companies should focus upon, namely: workplace, community, marketplace and environmental. These are dealt with below.

Companies should focus on these main areas to identify how their performance can be improved. The majority of companies find that the establishment of a working group with people from each of these key areas is a good starting point. It enables them to carry out an initial overview and from this overview to set objectives on what they would like to achieve for the year in question.

Environmental

If we take in particular the area of environmental reporting, companies need to look at a number of aspects, including the activities they carry out and how they impact on the environment. This is similar to the Environmental Impact Assessment that is carried out when developing an Environmental Management System.

Key areas to look at initially are paper usage, waste tonnage, energy usage, transport and travel. Following this a review of environmental impacts of these activities should be conducted, e.g. resource usage, using recycling paper,



segregation of waste, sourcing environmental waste solutions, working out CO₂ emissions from energy usage, travel and transport. It is also an advantage to look at the current benchmarking figures available based on sqm or headcount to see how environmentally-friendly you are.

Workplace

This mainly involves a review of the current workforce and can include a staff questionnaire looking at key issues and of course the inclusion of relevant HR personnel is paramount in developing a gap analysis.

Workplace issues look at disciplinary practices, health and safety, work/life balance, bullying and harassment to name a few areas.

Community

Community issues cover involvement with the local

community, and what investments are made. Exposure to human rights risks for investment activities should also be considered.

Marketplace

This area looks at customer services, suppliers, business ethics, the value of products and services and access to products and services.

How do you find out more?

There are numerous websites companies can visit in order to see what exactly CSR entails. A number of Irish and UK companies have already produced their CSR Annual Reports, some of whom have been reporting for a number of years, and of course there are a number of CSR reports being developed throughout Ireland which will be published later this year. Of course, there are also numerous consultants available to assist.

Plumb Lines



Heard it on the grapevine ...

AR DHEIS DÉ A SHEÁN — Having wished John Brophy a speedy recovery only two months ago, it is sad to report that he **passed away** recently. His untimely death came as a blow to all who knew him, it being all the more poignant given that he had only just retired and had great plans to commence a **new phase** in his life. My deepest sympathies to his family and close friends. He will be sadly missed but fondly remembered.

Remember When? ...



Des Prendergast was appointed Sales Representative, Domestic Heating Products, Hevac Ltd, in March 1979. Des remained with John English at Hevac for quite a long time before eventually moving on to Eurogas. There is no denying that, when comparing the Des of 1979 and that of last month (see elsewhere on this page), he has weathered well.

THE WEST'S AWAKE — A fact-finding trip throughout the **west, north-west and midlands** over the last two weeks of August left me feeling encouraged, revitalised and optimistic for the coming 12 months. There was still plenty of evidence of construction activity and the mood of architects, consultants and contractors was one of **optimism**, albeit tinged with caution, especially in respect of tender prices.

WIDE-EYED DUGGAN — Alan Duggan of Arup Consulting Engineers in Ballsbridge, Dublin 4, was the lucky winner of the **Sanyo 28"** widescreen TV in last month's *BSNews* competition. The number of entries was substantially more than the norm, suggesting that far too many of our readers are **couch potatoes!** Consequently, it's back to the Sanyo DVD player for this month's competition. See page 13.

CONGRATULATIONS EOIN KENNY — When I first edited *BSNews* (then *Irish H&V News*) back in the mid-1970s Eoin Kenny was an industry **father-figure**, having worked as a services engineer for almost 30

I DUB THEE ...



John English is known as a formidable person but who would have guessed that he had the strength to push Brendan Keaveney into the ground in such a casual, haphazard manner. Neill Ryan and David Daly seem happy to lend their support. I'm assured that Brendan suffered no permanent injury. Meanwhile, Des Prendergast seems anxious to prevent our photographer recording the incident ... is it that he knew he was to feature in our Remember When? slot elsewhere on this page.

years. Today, nearly 30 years later, Eoin is still an industry father-figure. In fact, this year marks **Eoin's 60th year** in the business, a remarkable achievement by any standards but, when one considers his contribution to the well-being of the services industry at large, he has had a **phenomenal career**. His knowledge, ability, energy and commitment is endless. Even today he is still taking on projects which will ultimately benefit the entire building services sector.

The year 2003 also marks another **milestone** in the life of Eoin Kenny. They say behind every man is a **woman** and, in Eoin's case, this

certainly holds true. Next month Eoin and his wife celebrate their **golden wedding anniversary**. I understand a massive **family gathering** is planned with their children travelling from all corners of the globe (and countries) to mark the occasion. Congratulations to you both!

CHOOSE AN IRISH POD — With something like 7000 **bathroom pods** imported into Ireland each year, an Irish company has now taken up the **challenge** to capture a significant share of this developing market segment. Congratulations to **Patrick O'Callaghan** of Delta Homes, whom we will be talking to for our next issue.

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ECOFAN

Reduces by recirculation the
temperature difference between
the roof and the floor

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GC

Direct gas-fired air heater with
atmospheric burner and centrifugal fan;
20.4-95.8 kW

G

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module with atmospheric burner;
20.4-95.8 kW

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The pipe bending machines bends
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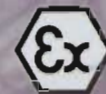
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Complete Solutions

Building Services News, Vol. 42, Iss. 8 [2003], Art. 1

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