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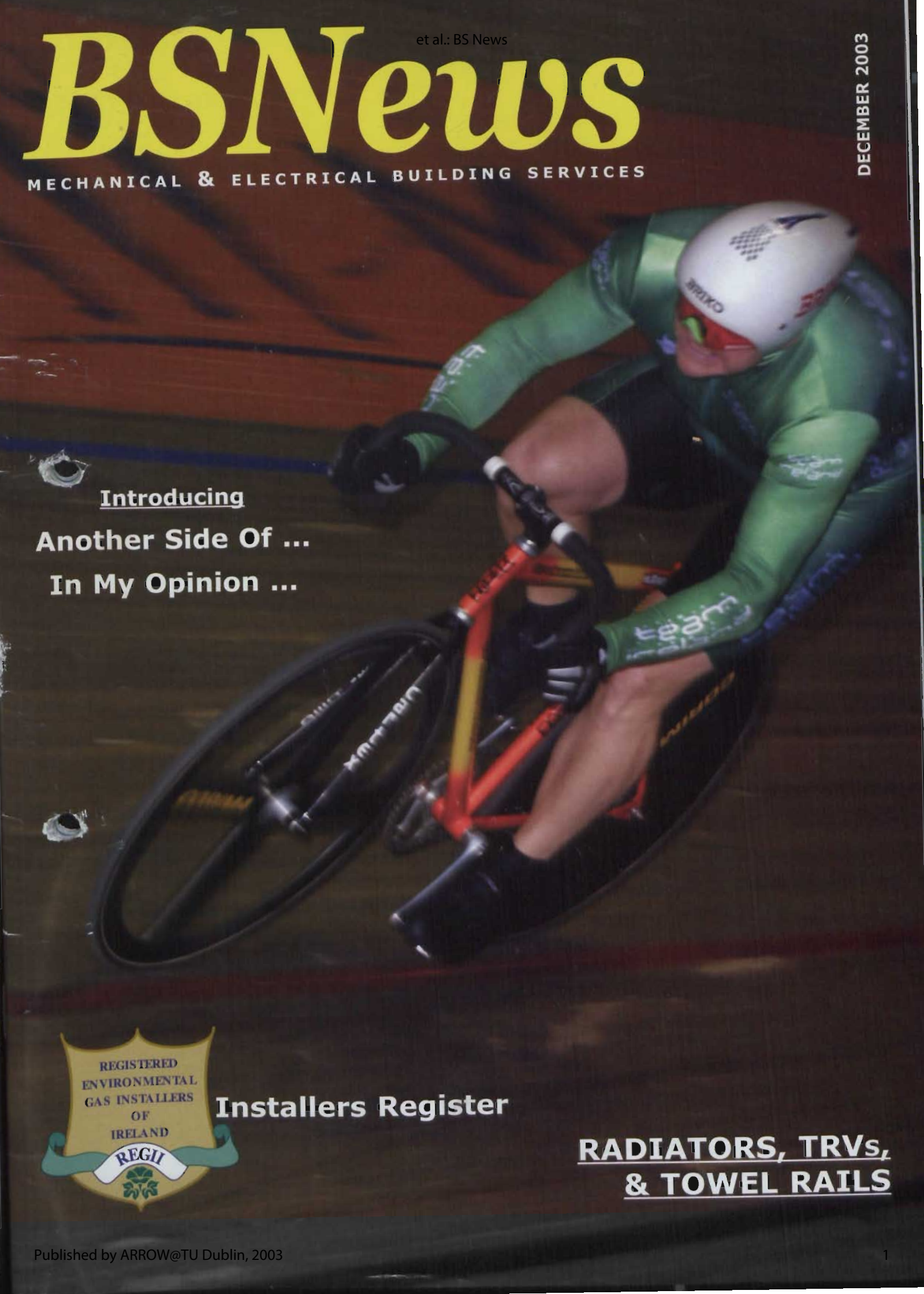


Introducing

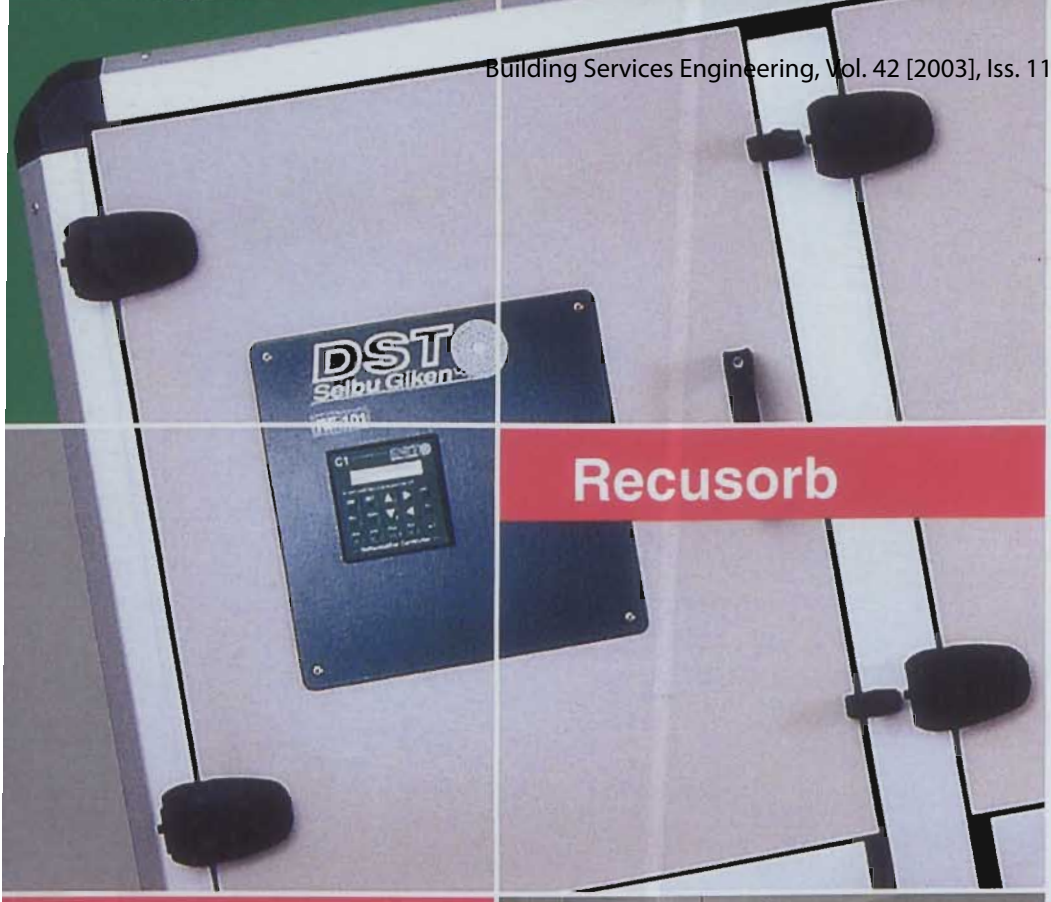
Another Side Of ...

In My Opinion ...

REGISTERED ENVIRONMENTAL GAS INSTALLERS OF IRELAND REGII

Installers Register

RADIATORS, TRVs, & TOWEL RAILS



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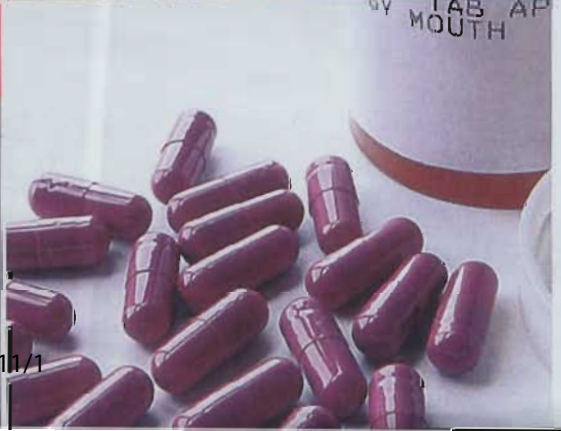

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BSNews

MECHANICAL & ELECTRICAL BUILDING SERVICES

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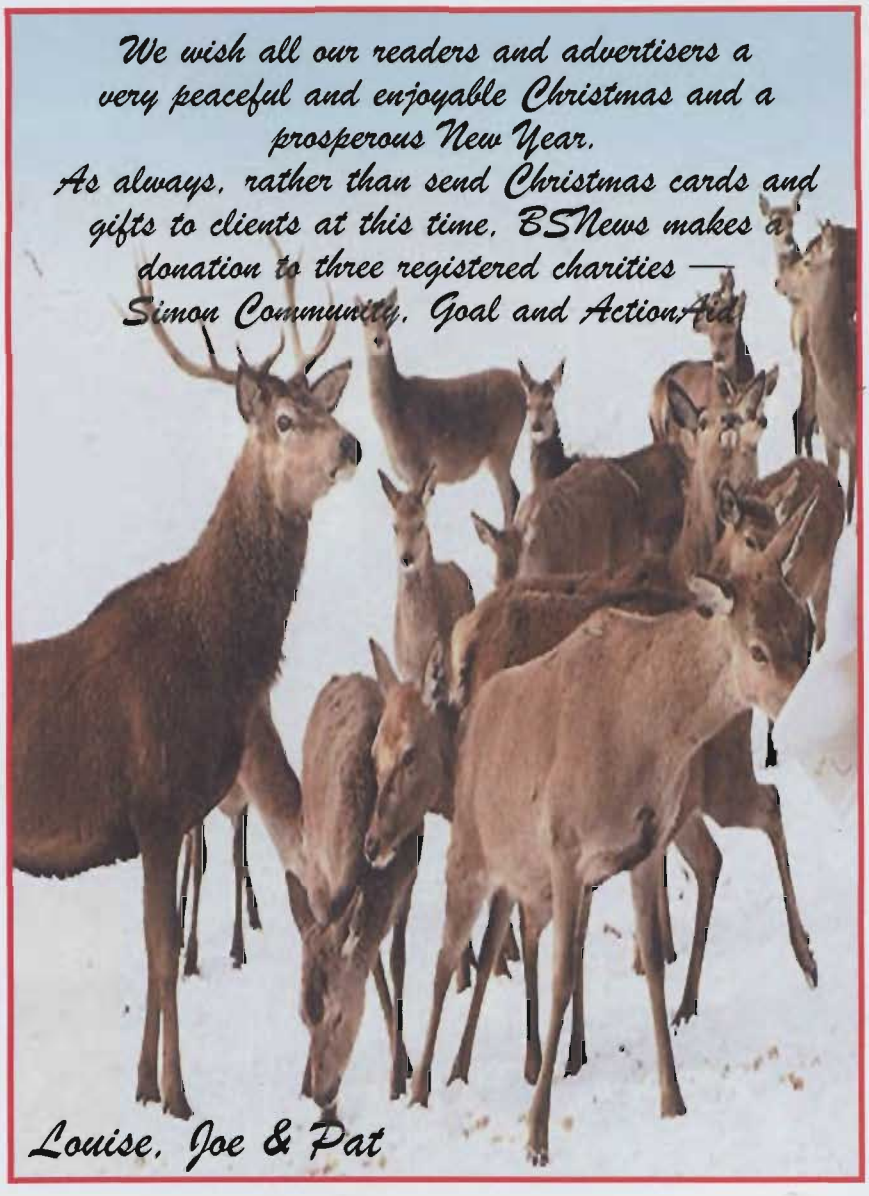
Irish Building Services News (formerly Irish H&V News) is Ireland's only Building Services magazine providing coverage of heating, ventilating, air conditioning, refrigeration, sanitaryware, plumbing, maintenance and environmental industries. It is the only publication catering exclusively for these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

Seasons Greetings



IN THIS ISSUE

At Last ... A Register of Environmental Gas Installers

SETTING INSTALLATION STANDARDS

Time and again in the past *BSNews* has bemoaned the fact that environmental gas installers do not have a representative body, an industry voice to speak on its behalf. When it comes to legislative changes, energy and environmental matters, and basic good practice, installers are never consulted. The experience to date is one of imposition whereby issues which dramatically impact on their businesses come into force without any dialogue.

Thankfully, that day is gone. With the recent emergence of REGII — Registered Environmental Gas Installers of Ireland — the industry finally has a powerful representative body which, even at this early stage, has demonstrated that it has significant clout. Following representation to Dermot Ahern, TD, Minister for Communications, Marine & Natural Resources, REGII has been instrumental in bringing forward new legislation which will see a Register of qualified gas installers drawn up. This new Gas Regulation Bill is expected to come into force as early as July 2004.

Other notable achievements to date include the re-introduction of fees for non-certified installers and the garnishing of support from all industry sectors, including product suppliers and other professional bodies. Goals for the immediate future include:—

- Environmental regulation;
- Reduced industry costs;
- Raising standards among professional installers;
- Fast-track new laws and regulations;
- Improve customer satisfaction;
- Group insurance scheme;
- Workshops;
- Seminars;
- Business development programmes.

"There is no reason for anyone to fear this new organisation", says REGII Chairman KevinFarrelly. "On the contrary, membership will reflect well on those who install a good job. The only people who need fear REGII are those who are cutting corners on jobs, running risks with safety, or simply lacking in the necessary skills to do the job properly in the first instance.

"Moreover, it is reliably estimated that something like 4000 domestic installations are carried out on the black economy every year. If you average even as little as €2500 per job, that's a loss of €10 million to the legitimate sector.

"Manufacturers should also welcome this development. Far too often customer complaints in respect of product performance or product safety is referred back to the supplier/manufacturer whereas the problem rests with the quality of the installation. Manufacturers can now monitor this situation and, where appropriate, get REGII to investigate and subsequently impose sanctions and/or loss of registration if the member is found to have been negligent.

"On a more positive note, I would like to thank everyone who gave their support in getting REGII off the ground, and wish all our members a happy Christmas and a prosperous new year."

While now established with a membership of 50 companies, REGII is not a closed shop. Far from it. The call now is for all installers to seek membership, to join the Register, and to become actively involved in its affa[illegible] The future prosperity of all environmental gas installers is very much in the balance, the impact of Registration, CO^2 taxes, etc all likely to severely impact on their businesses. By joining and supporting REGII, installers will be able to influence the manner in which Registration and the imposition of carbon taxes and other legislative measure[illegible] will affect the business and, by extension, their livelyhoods.

For more information call any of the names listed in the REGII Committee panel.

REGII Committee

Chairman	Kevin Farrelly	01 - 831 2666
Secretary	Ann Mullan	086 - 299 6839
Treasurer	Dave Harris	087 - 256 7985
Public Relations	Pat O'Shaughnessy	086 - 810 2017
Liaison Officer	Jim Brereton	086 - 256 9754
Recruitment	Gerry Marry	087 - 260 1868
Training	Michael McLaughlin	086 - 879 7996

AHUs — Where Size & Control Matters

The Irish building services industry is acknowledged as one of the most precise in Europe with regard to specifications and systems design. The air handling unit market is a typical example where attention to detail has resulted in a unit specification which originated for special applications and has now become a standard. For cooling and air conditioning applications double-skinned panels are essential, and where 25mm thick panels may have been considered sufficient at one time, over the last few years 50mm double-skinned panels have been increasingly specified.

Trane has been manufacturing air handling units for many years and now offers the Quantum Climate Changer. CLCP air handling units come in two panel specifications — 25mm double-skinned and 50 mm double-skinned — and a range of styles and sizes; factory-fitted options such as heat recovery; thermal wheels; and gas heating, all providing options which are suited to almost any application.

While size is an important issue, control is even more important. Controls that are specifically designed for the units are installed during the assembly so that the sensors can be fitted in the optimum positions. This is not always possible when controls are site fitted. It also makes for the highest level of efficiency and the best option for linking with other equipment in the building. There is a large amount of time saved sourcing components and fitting on site, so this provides an economical solution. Most of all, it provides a high level of security with single source supply.

The unit-mounted controls on Trane Quantum Climate Changer units integrate perfectly with Tracer Summit for Complete System Control.

Even the most perfect air handling unit cannot function correctly unless the rest of the system performs. Through high-speed LAN, these various elements can be treated as a single system and a work station can also be used to access a remote Tracer Summit via a standard modem.

Trane Quantum Climate Changer air handling units, with factory installed and tested controls, provide an economically-viable, environmentally-aware answer to air conditioning and indoor air quality.

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

Porsche Chooses Sanyo

For major players in the luxury sports car market nothing is more potent than the power of the brand. Porche Cars are no exception. Their 9-acre office and pre-delivery inspection centre was purpose built in 1985 and is designed to embody the corporate identity of the German manufacturer and provide a fitting environment for the sales of what the company claims is "The Car of the Future".

Facilities at the site comprise an integral workshop, office accommodation and sales area. There is a stunning stunning glass-covered atrium where gleaming models, past and present, can be admired.

"When you are working on a building which in itself represents a quality brand, the client depends on you to carry their standards throughout your work", explains Barry Hennessy. Sales Manager of Sanyo Ireland. " We spent considerable time getting to know what Porsche stands for and exactly what their expectations were.

"Together we developed a solution that saw the replacement of the three existing chillers, serving the original building and workshop areas, and the new offices and showroom area is independent from the rest of the building and for this Sanyo's design team selected stand-alone Sanyo VRF systems".

The extent of the Sanyo outdoor unit range was utilised to the full as a larger 20hp W-Eco (SPW-1903GDYH8) complete with a 10hp add unit (SPW-CR903GDCH8) offering a 84kW system suited the main areas but, to reduce the necessary pipe runs, a much smaller 5hp SPW-CR483GVH8 (14.2kW) was sited adjacent to the office complex.

"We used a mixture of ducted ceiling units in the showroom area as we had to allow for the ceiling height of six meters so here they were adapted with special grilles to optimise air distribution," explains Barry. "In the offices we used standard 4-way discharge cassettes but the panels were sprayed in Porsche Silver to conform to the interior branding."

Electro-Optic Liquid Level Switches

The new Gems Sensors' ELS-300 Series liquid level switches from Manotherm are single-point, electro-optic units available in lengths to 380mm, specified in 3mm increments. This allows engineers to provide immediate liquid level monitoring from a sensor mounted in either the top or bottom of the storage vessels (most electro-optic switches must be installed through the side of a tank to provide intermediate level sensing).

Gems Sensors' ELS-300 pr mast-flare from Manotherm

Additionally, ELS-300 switches are compact, economically-priced, and feature built-in, solid-state, electronics. There are no moving parts and simple, one-piece, installation. Typical applications include:—

— Medical laboratory;
— Food and drink systems;
— Pharmaceuticals;
— Leak detection;
— Hydraulic reservoirs;
— Machine tools.

ELS-300 switches feature a simple, yet reliable, operating principle. The electro-optical sensor contains an infra-red LED and a light receiver. Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver. When rising liquid immerses the prism, the light is refracted out in to the liquid, leaving little or no light to reach the receiver. Sensing this change, the receiver actuates electronic switching within the unit to operate an external alarm or control circuit.

Operation is straightforward and directly related to movement of a liquid's surface. Depending on the mounting position, as the float rises or lowers with liquid level, a magnetic field is moved into the proximity of a reliable, hermetically-sealed reed switch within the housing, thereby causing switch actuation. By rotating the switch to 180°C, the switch operation can be "normally open" or "normally closed". Units are supplied with 600mm lead wires.

Gems Sensors also has other versions within the LS-7 Series, including internally or externally-mounted units, and those made of polypropylene, nylon or metals.

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

GHP VRF Systems

VRF (variable refrigerant flow) systems are normally powered by electric-driven compressors with an inverter for variable speed control. The Mitsubishi Heavy Industries GHP is a VRF system, which has the compressor powered by an engine using natural gas as the input fuel. This means that large cooling/heating systems can be installed in buildings which have a limited electricity supply. The GHP requires some electrical power for the fans and controls, but this is minimal compared to the power requirements of a conventional VRF, chiller, or other type of system.

In winter, the heating performance is maintained in very cold ambient conditions, because the waste heat from the engine is utilised as a secondary heat source to enhance the output of the heat pump.

The application of air conditioning systems powered by internal combustion engines has been in existence for over 20 years. All of these applications have been mainly experimental, and are bespoke designs. This has resulted in high equipment costs, which have prohibited future commercial viability.

However, the concept developed by Mitsubishi Heavy Industries provides many benefits for the designer and installer, while reducing running costs for the client. VRF systems are generally powered by electricity, usually a 3-phase power supply. The compressor normally would use 96% of the electrical power of the outdoor unit, the remaining 4% being for the fans and control system.

The GHP is a VRF system which behaves in a similar operational mode to conventional electric powered VRF systems. Instead of using electrical power for the compressor, the GHP compressor is driven by an engine, very similar to a car engine, having four cylinders, spark plugs, etc, and capable of being controlled at varying speeds, i.e. similar to the inverter on an electric system. The engine is directly coupled to a Mitsubishi Heavy Industries compressor.

The heat pump performance is enhanced by utilising the waste heat from the engine. The engine coolant is circulated through a heat exchanger to transfer waste heat energy into the refrigerant, thus increasing the coefficient of performance (COP) of the heat pump operation.

Mitsubishi Heavy Industries GHP gas engine powered VRF system from 3D Air Sales (Ireland).

Because there is a constant source of heat energy from the engine, the normal de-frost function of conventional systems is eliminated, so there is no shut-down period for defrosting. This also reduces warm up time from a cold start.

GHP systems are ideal for commercial buildings, and it is quite common to see multiple installations in office buildings and large retail stores. Mitsubishi Heavy Industries has now developed the Mk4 GHP which is CE marked, and has the service interval extended to 8,000 hours of operation. That equates to two years based on 60 hours per week.

The construction of the GHP consists of large heat exchangers and fans in the top section, with a sealed engine/compressor housing below. This housing has acoustic insulation to minimise noise break out. The microcomputer controlled system behaves similarly to an inverter system on electric VRF units. The outdoor unit has a 7-segment 6-digit display for ease of component and system monitoring, and for fault diagnosis. A comprehensive explanation of the operational and control features can be downloaded from the 3D website.

Contact: Michael Clancy, 3D Air Sales (Ireland). Tel: 01 - 462 7570;
email: micclan1@eircom.net

Environments Fit to Live & Work In

A comfortable indoor environment is essential for good health and worker performance and productivity. This is especially true of commercial, industrial and manufacturing environments where the various activities call for exacting levels of control.

The Coolea-based Mark Group specialises in indoor environmental technology and has developed an extensive range of innovative products which cater for all requirements. These include:—

— Roof fans;
— Destratification;
— Industrial burners;
— Wall and ceiling LPHW fan coils;
— Gas-fired wall and ceiling heaters;
— Cabinet heaters;
— Unit air heaters;
— Gas-fired make-up air units;
— Gas-fired, black tube, radiant heating;
— Radiant plaques;
— Water radiant panels;
— Warm water unit air heaters;
— Air handling units.

Mark also manufactures a range of hydraulic pipe-bending machines.

Contact: Roger Bolger, Dublin/North West/ North. Tel: 086 259 2099; Adrian Ryan, Limerick/West. Tel: 087 252 8149; Michael Keane, South/South East. Tel: 086 252 8325.

Hevac Moves Forward With Selkirkflue

Just weeks after acquiring the assets of Selkirk Manufacturing, Selkirkflue Ltd is rapidly moving forward with a major redevelopment plan which will strengthen its manufacturing programme and ensure greater continuity of its market-leading products such as the IL, SM, SMW, QC, Supra and Europa flue systems.

Declan Kissane of Hevac, Selkirkflue distributors in Ireland, said: "This is a very positive development. Now owned by the US-based Stamm International Corporation, the company will continue to operate from its established headquarters in North Devon, in the UK, while availing of the massive support being part of such a vast conglomerate entails".

Contact: Declan Kissane, Hevac. Tel: 01 - 419 1919; email: declan@hevac.ie

Modulate in Moderation

Bob Walsh, Technical Director for Hamworthy Heating examines the case for modular boilers and explains why fewer boilers will provide the practical and cost-efficient solution for a system's requirements.

We have seen significant changes to commercial boilers over the past five years in response to the ever-changing market needs which are predominantly driven by legislation. During the 1980s and 1990s, the UK commercial heating market adopted modular boiler solutions as the most cost -effective and efficient means of satisfying the seasonal loads influenced by demand and resultant control systems. By the early 1990s this involved the use of dedicated boiler sequence controls working with BMS systems, to provide efficient control of modular boilers, ensuring even duty of all boilers by the auto shift of the lead boiler. With the growth of modular solutions some controls providers developed their own sequencing philosophies and these companies have now developed the BEMS controls market.

The fundamental shift is that, due to efficiency requirements, the traditional atmospheric cast iron boiler can no longer meet the imminent regulations, and accordingly, the controls philosophies developed in the 1980s and 1990s are not relevant to the modern modulating, compact, low water content boilers available today.

Cast iron was high thermal mass and therefore slow to respond, allowing the use of basic "On/Off" sequencing controls, the level of control could be enhanced by the use of Hi/Lo firing boilers. Today with modulating boilers, the controls philosophy must again change if the part load efficiency gains are to be further maximised. It is more efficient to have all boilers firing and modulating in unison to meet the demand, hence there needs to be the ability for the BMS control to sequence and influence the firing rate of the boilers.

The dilemma

Modular boilers are widely accepted by the UK commercial market as the solution to a wide range of applications, but how many boilers do you need? Install too few boilers and the level of control is compromised in response to the system demand and there is insufficient standby for routine maintenance or breakdown. While it is possible to install 15 or 20 small wall-hung boilers in a multiple installation, this would not be a practical solution either. The intricacy of controls and pipework would take up valuable space, installation time would be increased, maintenance complex, and servicing would incur excessive costs.

The full range of the Wessex boilers

On the other hand, installing two large boilers will not give the system performance. The degree of modulation, or turndown, must be appropriate to the system needs and how the load will fluctuate, seasonally and during periods of occupation during the heating season.

There is no easy answer, but the reality is that with modulating boilers, the number of modules can be kept to a minimum, provided that the controls system is configured to provide the level of turndown required by the system. Using the modular boiler concept, standby and security can be achieved.

The Hamworthy solution

Hamworthy Heating's Wessex 220 M Series of high efficiency, pre-mix gas fired, fully modulating boilers out-perform traditional alternatives and provide the optimum solution for mid to high range output projects. Three models are available in the range — the M220, M440 and M660 (outputs of 220kW, 440kW and 660kW respectively), with all models suitable for natural gas or LPG. The range demonstrates the characteristics required provide optimum performance, enabling systems and controls to accurately match load requirements and they require less room than traditional boilers.

Built on proven technology, the Wessex 220 M makes a simple reliable solution for refurbishment projects and is particularly suited to constant temperature circuits, although direct temperature compensation on the boiler is one of its many energy-saving performance features. Close load matching equals cost and performance efficiency.

Take a single Wessex 220 M660 boiler that has three 220kW modules. Each module can operate on/off, high/low or fully modulating with a 5:1 turndown. The M660 model can therefore modulate across the range from 660kW full load output down to 20% of a single module, 44kW. Three modules gives sufficient back-up and

ensures close control of the output, providing savings on fuel bills and reducing emissions.

The strength of the heat exchanger design makes it suitable for basement or high rise applications with a maximum working pressure of 10 bar. A high rate of heat transfer is obtained by using a copper finned heat exchanger. Copper has the highest thermal conductivity, 15 times more conductivity than stainless steel, 6_ times more than cast iron or low carbon steel and 1_ times more than aluminium. Robust, reliable and resistant to corrosion, many Hamworthy copper finned heat exchangers have been in service for more than 20 years and are still going strong today.

Installation

It is the only high efficiency boiler of its type to be supplied fully assembled and factory tested with no casings to install, ready to plumb and connect to the power. In confined spaces the M660 can be quickly split into individual modules and each one lifted separately to access a difficult plant room. The use of plastic materials creates a modern stylish design that is both practical and durable for commercial plant rooms, and the unique combustion air flow removes the need for casing insulation.

In addition, factory made pipework kits can be installed prior to the boiler and each kit is designed for ease of handling with a pallet truck, taking into account the substantial weight of 150mm NB pipework. The pipe kits provide a single water flow and return connection to the system. M440 and M660 models are supplied with a close-coupled flue header incorporating an integral damper, requiring only a single flue connection on the boiler.

Controls & Operation

Each module has its own control panel for ease of monitoring the boiler status. As each module can be fired independently and in any sequence, the lead module can be rotated. This allows the wear and tear to be shared evenly, further extending the life of the boiler.

The Wessex 220 M Series boilers are available with an optional advanced Hamworthy Milton sequencing control package or a new Sequencing Interface Module (SIM), which enables fully modulating control via a 0-10v analogue signal from a non-Hamworthy building management control system.

Performance counts

The Wessex 220 M high efficiency boiler range produces exceptional performance with full load efficiency up to 85% gross (94% nett) and part load efficiency up to 89% gross (98% nett), far exceeding the requirements of the latest Building Regulations. Modules can be arranged one, two or three high on the same exceptionally small footprint with an unprecedented output of up to 880kW per square metre in multiple configurations.

An electronic thermostat monitors the boiler operating conditions and automatically adjusts the output required. Its ability to rapidly respond to match heat load to demand and ultra low standing losses (<0.25kW on a 220kW module), and an additional benefit of qualifying for Enhanced Capital Allowances (ECAs) put the Wessex 220 M at the top of the list in high performance commercial boilers. The environmentally friendly Wessex 220 M also meets European class 5 performance for Nox emissions.

Size matters

Building costs put space at a premium and reducing the size of a plant room is an attractive proposition. The Hamworthy Wessex 220 M660 boiler creates significant savings in space and weight allowances. Consisting of three modules it occupies an incredibly small footprint, approximately one-third of the space required by a traditional boiler: 0.76m_ providing over 800kW per m_. It is easily manoeuvred using a standard pallet truck through a normal-sized doorway. At less than 1Kg per kW in weight the Wessex 220 M Series weighs in at less than half that of traditional steel boilers and less than 20% of cast iron boilers making it especially suitable for rooftop installations by removing the need for excessive structural reinforcement.

What's the noise?

Noise levels for the Wessex are significantly low by comparison. Installed the Wessex 220 M module generates 49dB(A) (part load) at 2m (65dB(A) full load. Putting this into context, in a library the noise level would typically be 35dB(A) at 2m; in a normal conversation 60dB(A) and a typical pressure jet burner would be 75dB(A) at 2m, so the low noise performance is a real asset where the plant room is located in an area sensitive to noise.

When evaluating modular boiler solutions for mid to high range system loads, the Wessex 220 M Series is the logical choice in terms of system efficiency, size and cost."

Contact: Karl Carrick, Hevac.
Tel: 01 - 419 1919;
email karlc@hevac.ie.
Visit: www.hamworthy-heating.com

The Chartered Institution of Building Services Engineers

Republic of Ireland Region Events For 2003-2004

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

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	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
Friday, 5th December 2003	Celebrity Lunch	The Schoolhouse Restaurant	Herbert Taylor
Thursday, 15th January 2004	MSG Lecture: "Wind Convector Heat Pumps: Experimental Testing and Performance Modelling"	IEI, Clyde Road	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	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

Lack of power? No problem!

Sanyo's new GHP - the problem solver

All the benefits of VRF air conditioning when mains electricity is in short supply!

Many buildings are reaching their power thresholds but upgrading incoming mains is expensive and takes time – delaying air conditioning installations and often breaking the budget.

Now Sanyo has the solution – by using Gas as its main power supply the Sanyo GHP can offer you 56kW of cooling or heating for less than 1½ kW of electrical consumption.

- Outdoor unit range of 8hp, 10hp, 13hp, 16hp and 20hp.
- Indoor/Outdoor ratio up to 200% allowable
- 24 indoor units connectability
- 100% heating capacity at –15°C
- Pipe runs up to 120m actual

The biggest difference is that it is powered by Gas.

Single phase DC inverter fan motors minimise electrical power consumption so GHP can meet all your VRF air conditioning needs without putting a strain on your existing electrical supply. Sanyo GHP means your cooling output is no longer totally dependant on your electrical input.

CIBSE CPD

With Sanyo GHP we give you the power.

For more information email ghp@sanyoaircon.com or visit www.sanyoaircon.com

SANYO
AIR CONDITIONERS

Lift Modernisation in Commercial Buildings

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

History

The quest to construct tall and large buildings is not something new. We have had the desire, and the ability, to build big for thousands of years. The Great Pyramid of Khufu at Gisa near Cairo was built approximately 4,200 years ago. At 147m (now 137m) it was the world's tallest structure for over 4,000 years and is as tall as a modern office building of over 40 storeys. Such a building of similar size and shape could have capacity for over 3,500 people on the ground floor alone and over 75,000 people in total. Since the Great Pyramid was built, primarily for one Pharaoh, its ratio of gross to net lettable area would not be seen as attractive to today's property investors.

Recent developments

Until recently, the construction of tall buildings has suffered the twin constraints of vertical transportation and structural limitations but, over the last 150 years, developments in these two areas have continuously leap-frogged one another. The first passenger carrying lift was installed in the Haughwout department store in New York in 1857 and thus it became practical to construct office buildings of more than four or five storeys. The world's tallest building, to date, is the Petronas Towers in Kuala Lumpur at 452m and 88 storeys. The Petronas Towers are provided with a total of 58 double-deck, high-speed passenger lifts.

The Irish context

On a more mundane level, numerous second-generation office buildings were constructed in Ireland in the 1960s, '70s and '80s. Typically, these will now be 30 plus years old and, although some have been demolished for redevelopment, many more remain in service and will do so for many years to come. By the time these buildings reach 20 to 30 years of age some refurbishment works are usually required and modernisation of the lifts will generally be close to the top of the list of priorities.

Every lift installation is different and requirements for modernisation can only be determined by having a competent lift consultant or contractor carry out an inspection, provide a report and recommendations, and prepare a specification for the works. However, there are some common themes running through many modernisation projects.

Control system and wiring

Frequently the control system and electrical wiring will be the first components to be looked at when modernisation is being considered. Controllers of this vintage will usually be electro-mechanical relay type. These are subject to mechanical wear and tear and degradation due to the environment in which they operate. Electrical wiring, and particularly trailing cables in the lift shaft, are subject to deterioration and breakdown. Modern lift controllers are solid state devices and provide not only for more reliable operation but also for improved control algorithms such that they can often improve the performance of a bank of lifts quite significantly.

The drive controller controls the actual hoist motor and is of fundamental importance. The controllers of 2-speed AC machines can frequently be replaced with variable voltage, variable frequency drive controllers. This can have the manifold benefits of improvement to reliability, performance, ride comfort, energy consumption, heat dissipation, and longevity of the machine.

Hoist machine

If the controller is the brain of the lift, then the hoist machine is its heart and will probably be the next component to be looked at. Some heavy-duty 2-speed or, indeed, single-speed AC

machines with early forms of variable-speed drives have been installed in second-generation office buildings and shopping centres. These can be capable of providing many further years of reliable service. There are a number of instances where major modernisations have retained the original hoist machines. Other AC machines may prove to be less durable and will require replacement. High quality DC drive machines are subject to their own particular problems, not the least of which are wear and tear to the motor commutator and carbon brushes, and thus the replacement of DC driven hoist machines is more likely to be required.

Car landing/ doors/ door drives

Door faults are the single most common cause of lift breakdowns. Since the opening, closing and dwell speeds and times of lift doors are at least as important as the lift travel speed and time, the reliable and efficient operation of doors is fundamental to good lift performance. Since the 1960s door drives have gone through many redesigns and have seen huge improvements in simplicity, reliability and performance. They now have a wide range of adjustments such that they can be tailored to meet virtually any performance requirement. The door drives and lift car doors thus will usually be replaced in any comprehensive modernisation project.

The landing doors, on the other hand, can be of good quality and with the replacement of any worn mechanical parts may be suitable for many further years of reliable service. Since landing doors are required at every level they may be numerous. Replacement of landing doors invariably has a knock-on effect on the architraves and surrounding décor, thus replacing the landing doors adds very significantly to the cost and time programme for lift modernisation projects, and also adds significantly to the disruption caused on each floor. The operation of the landing doors is fundamental to the operation of the installation as a whole and, if these are not right, then the lift will never give satisfactory service. Due to all of these factors the decision to replace or retain the original landing doors should receive the closest scrutiny.

One further aspect to consider is that although landing doors may be in satisfactory condition and fit for prolonged further use, they may not be certified as having a fire rating. This factor needs to be considered in the context of the fire safety of the building as a whole. For example, the requirement for fire-rated landing doors in a building where the lift lobbies themselves are fire-rated, comprehensive automatic fire detection is in place, and good alternative means of emergency escape are provided, will be totally different to one where these factors are missing.

Conclusions

In this article we have looked briefly at all the major aspects of lift modernisations in second-generation office buildings. We have seen how features such as performance, reliability, comfort, safety and energy-efficiency can all be improved. Hydraulic lifts, which have not been covered in this article, pose a completely different set of problems and solutions, including the possibility of replacing them entirely with machine room-less lifts. The most important factor is that all office buildings are different and, thus, all lift installations are different. Each installation is unique and each needs to be separately assessed in detail on its own merits. However, with today's technology, there are solutions for virtually every situation.

Flexisorb – Energy-Efficient Dehumidifers From Coolair

DST, the Swedish manufacturer of an extensive range of unique energy efficient dehumidifiers and cassette rotors, was founded in 1962 as the European manufacturing facility for Seibu Giken, Japan. The company has now extended their range to include custom built air handling units incorporating dessicant dehumidiers.

Flexisorb dehumidifiers can incorporate everything from straightforward dehumidification, with optional precooling and aftercooling coils, to complete climate control with integrated refrigeration systems. Flexisorb can include any of the existing energy-efficient dehumidification systems currently available in DST's stand-alone dehumidifiers namely : Recusorb, Econosorb, Consorb and Frigosorb.

Briefly these systems work on the following principles:—

Medium-sized dehumidifiers — the R-060BR and R-061R are stainless steel units used in fields such as process industry, warehouses, plastic halls or in the event of serious water damage

Recusorb R

Recusorb R works with built-in heat recovery whereby heat is absorbed during rotor regeneration (green) and then recovered in the "purge zone", where incoming air is preheated and partly dehumidified. The amount of energy used is reduced and the dry air becomes both dryer and cooler than is the case with other sorption dehumidifiers

Consorb

The Consorb principle is normally used at low regeneration temperatures, such as when excess heat is present or when dehumidifying very moist air.

Econosorb

Econsork combines a heat pump with the sorption rotor in a unique manner which results in very low energy consumption and low dry air temperature. Probably the most energy-efficient dehumidifier on the market, this unit uses around a quarter of the total energy used by standard sorption dehumidifiers. Econosorb has both condensation and wet air.

Flexisorb dehumidifiers supply everything from straightforward dehumidification to complete climate control with integrated refrigeration

Frigosorb

This is a principle patented by DST. Frigosorb is used for applications where it is difficult to draw off a wet airflow. The heat pump function makes the Frigosorb very energy-efficient, using around a third of the total energy used by standard sorption dehumidifiers.

The Flexisorb system is made up of modern DST dehumidifiers with a flexible design, which allows these units to be adapted to fit customer's specific requirements. The available airflow starts at 900m3/h. Rotor diameters of 0.55m and above are available. The Flexisorb unit is supplied with panels made of aluzinc while stainless steel is available as an option. Pre-cooling and after-cooling are available as optional extras.

Flexisorb dehumidifiers can be supplied with controls to suit each application, from simple, basic control to PLC-based moisture and temperature control. Using a single unit from a single supplier allows the user optimise control.

The SSCR adsorption rotor from Seibu Giken is at the heart of every DST dehumidifier. This SSCR rotor has been a leading light in the field of adsorption technology for years and offers many advantages:

— The rotor is washable and environmentally friendly;
— No particles are carried out in the dry air;
— Long service life;
— High dehumidification capacity;
— Bacteriostatic;

Contact: Brendan Kilgallon, Coolair.
Tel: 01 - 451 1244;
email: info@coolair.ie

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Finish off your designer rad installations with the smouldering good looks of hand polished chrome. Discover more about the range of high-style solid brass Myson Decorative valves and a wave of other fresh ideas –
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FROM **MYSON** CONTROLS

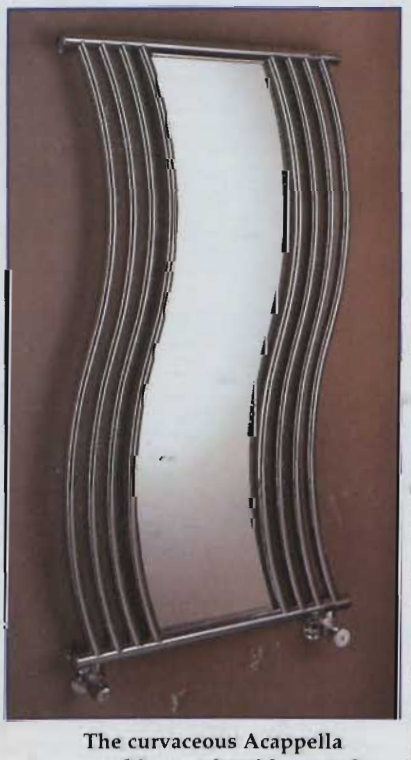
Myson Heating Controls Ltd, Newcastle West, Co Limerick

Myson — Multiple Choice for Every Conceivable Application

Myson is one of the oldest and most respected companies in the heating industry. It is also one of the largest and most innovative producers of radiators and heating equipment in Europe.

Every Myson product is designed and is manufactured to the most stringent quality standards. The factory has BS EN14001 certification and all products in the range meet the European radiator standard EN 442. They are manufactured to !SO 9002 and come complete with a 5-year warranty.

The Myson Panel Range of radiators features some of the best-selling brands across Europe, in both domestic and commercial situations, and includes the Myson Premier HE; the Myson Select; the Myson LST; and the Myson Eclipse. Brief features and benefits of each is as follows:—



The curvaceous Acappella combines style with warmth and the simple function of a mirror, as well as adding a bold design statement to the setting. Available in chrome, brushed or bright nickel, 22-carat gold, white, or one of many colour choices

Myson Premier HE
— Famous round-top, safety-conscious, design;
— High-efficiency convector plate;
— Increased convector fin surface area;
— Optimum heat output;
— Wide range of sizes.

Myson Select
— Seam-top radiator;
— Mix-in-match capability;
— Factory-fitted compact kit;
— High-quality paint finish;
— Multi-directional chrome air vent.

Myson Eclipse
— Stylish, flat-fronted design;
— Total installation flexibility;
— Built-in valve system;
— Can be connected from either side, or the bottom;
— All pipework is hidden.

Myson LST
Myson was the first manufacturer to base its LST radiator on its proven steel panel radiator range. The unique design gives a surface temperature of less than 43°C and includes a host of other safety design features.

Decor & Column
There is also a broad Myson decorative collection, featuring the Decor and Column ranges. As the name implies, these radiators are not just highly-efficient heating devices but also attractive decorative items.
The Decor range comprises four styles — vertical, horizontal, column and plinth. The style, quality of construction, and paint finish are of the highest order. There are stunning alternatives to mainstream radiators, with a vast array of choices to suit the most prestigious environments. The same can be said of the Column range. With more and more decorative styles providing new interior design possibilities, the Column range is at the forefront of this development. There is a colour, size and column configuration to suit almost any decor.

Myson Convectors
Connected like a radiator to the central heating system, Myson hydronic fan convectors offer features and benefits which are not available from a traditional heat emitter. These include:—
— Compact size;
— Quick to heat;
— Controllable warmth;
— Quiet running;
— Value for money;
— Quality assured;
— Guaranteed performance.

Myson Towel Warmers
Economical and efficient, Myson towel warmers add more than comfort to a room ... they also being a sense of style and luxury with a vast choice of standard units of different designs, or customised units, to choose from.
Modifications can include everything from size, shape and colour to tapping size and position, dezinc-proof units, and copper panel radiators.
There are four different ranges to choose from — Classic; Tempo and Melody contemporary designs; and the ECO Multirails contract collection.

Myson Underfloor
Myson underfloor heating 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 is ideal for mixed systems with, for example, underfloor heating on the ground floor and radiators on the first. Individual rooms or areas can be zoned to suit any purpose.

As the foregoing brief resume confirms, Myson has a truly vast choice of radiators, towel rails and underfloor heating systems to choose from. Full-colour brochures — including technical specifications — are available on each of the individual ranges briefly described.

Contact: Vincent Broderick, Potterton Myson.
Tel: 01 - 459 0870;
email: post@potterton-myson.ie

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LIMITED

SUPER V40
ROUND TOP RADIATORS

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- Sleeker profile
- Smaller radiators yet higher output
- Recessed tappings for neater finish
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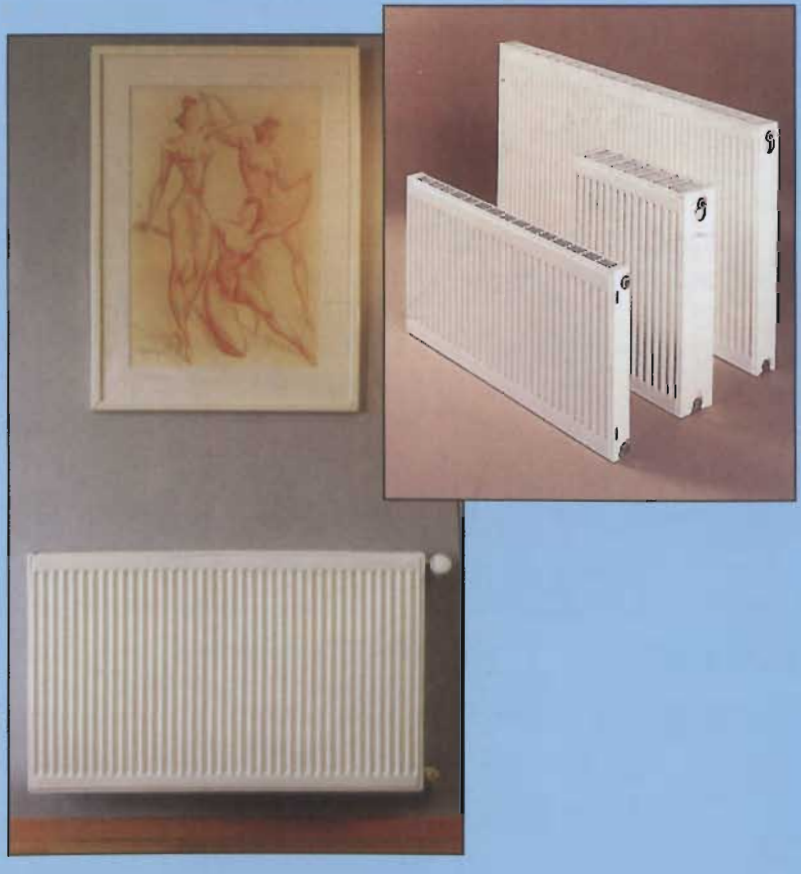


VEHA RADIATORS LTD
The Murrough, Wicklow Town, Co Wicklow
Tel: 0404 67278 Fax: 0404 67731

Danfoss Programmable & Set-Back Thermostats

Danfoss Randall has introduced a new range of programmable room thermostats and set-back thermostats, bringing a new and modern style to the market. The programmable thermostat, type TP5000, will in time replace the TP5E model, while the RT51 and RT52 set-back models will replace the RT1 and RT2 respectively.

All of the models in the range come in a stylish, ultra-slim enclosure with a large easy-to-read LCD display. Programming follows the well tried and tested method used for many years in the TP series, recognised by all for its simplicity and intuitiveness. All models are battery powered and incorporate a wallplate for ease of installation. Wireless models offer identical functionality to that of the hard-wired models.

The TP5000 combines the functionality of a room thermostat and timeswitch into a single, simple-to-use controller. Offering 5/2-day operation, up to six time and temperature changes per day, with a different programme for weekends, the TP5000 is an ideal solution for combi-boiler systems.

Danfoss Randall TP5000 controller and RX-3 receiver unit from Danfoss Ireland

In addition to programmed temperatures, the thermostat can also be programmed to turn the heating off at user-defined times. Other useful overrides include temporary temperature overrides, thermostat mode, and a weekend into weekday override which is ideal for holiday periods.

If required, the TP5000 can also be set up to provide just two events each day, making it an ideal solution for commercial applications.

The RT51 and RT52 provide two temperature settings — one typically used in the day and another for the night periods of inoccupancy. The RT51 offers manual return to day setting, while the RT52 incorporates a timer which automatically returns the thermostat to day temperature operation at a user-defined time which is repeated every day.

The RF version of all three thermostats are ideal for use in situations where a quick and easy installation is required. Wiring is limited to that needed between the RX receiver unit and the boiler or valve it is controlling. No wiring is needed between the thermostat and the boiler, making all three thermostats ideal for both new and upgrade situations.

All RF versions are equipped with a radio transmitter which utilises secure digital FM communication between the thermostat and a receiver unit, which can be mounted up to 30 metres away.

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

Radiators that make a fashion statement

The diverse and innovative Myson Décor and Column ranges of decorative radiators include a wide variety of designs to enhance the style of any interior.

The Myson Decorative Range combines aesthetic appeal with performance excellence. Radiators are no longer merely functional but can now become a focal point of interior design.

The Myson Decorative Range offers a stunning alternative to conventional Panel radiators, with the Horizontal, Vertical, Column and Plinth models, giving you the freedom to design your interior to your own individual taste.

MYSON

Radiators

Potterton Myson (Ireland) Ltd
Belgard Road, Tallaght, Dublin 24
Tel: 01 - 459 0870
Fax: 01 - 459 0880
email: post@potterton-myson.ie

www.potterton-myson.ie

Veha V40 — First Choice Preference

Since its introduction, the Veha V40 range of angled and curved panel radiators has gained considerable market shares. Its increased outputs, coupled with aesthetic appeal, make it the first-preference choice of many installers and specifiers alike.

Veha Radiators has been producing radiators in Ireland since 1956 and in 1994 became part of Barlo Group Plc.

Veha Radiators provide customers with a vast range of products to suit the domestic, industrial and commercial markets. The modern warehouse facility houses radiators in five different heights and 13 lengths in single and double convectors, ex-stock. For the specialist market Veha provides angled and curved 3- and 4-panel radiators to order. Veha not only provides excellent choice but also provides an outstanding customer service.

Veha single and double A & C type radiators are manufactured to BS EN 442 under a quality system assessed against BS EN ISO 9002.

The concealed connections are so designed that, when used with the Veha patent mounting bracket pipe, runs do not have to be modified to mate with connections on multi-panel installations. Standard size 1/2" BSP. Sizes 3/8", 3/4", 1" BSP are also available.

The airvent fitted and tested in the factory is designed and located to allow easy access. For radiators with four connections an air vent can be located on the connections.

Each radiator is individually tested to 7-Bar pressure (103psi) in accordance with the requirements of BSEN442 and can be used with indirect systems or closed circuits at a working pressure not exceeding 4.66 bar pressure (67.6psi).

Veha radiators are prepared using a 5-stage cleaning, degreasing and anti-rust process and finished in a durable electrophoretic coating that requires no further painting. Each radiator is packaged with durable cardboard end pieces and a covering of vacuum-sealed heavy duty polythene.

All radiators are supplied under warranty for five years in respect of defective materials and manufacture.

Veha Radiators V40 round-top convector radiators now offer increased heat outputs and improved design aesthetics

From the Veha design range

Veha towel radiators offer the comfort of controlled warmth with the added luxury of readily available heated dry towels.

Functional and attractive, with smooth lines and seamless construction to complement their ergonomic styling, they protect the distinctive elegance that is synonymous with contemporary interior design.

They are ideal for both private and commercial projects including hotels, recreation centres and prestigious housing. Indeed they can be used anywhere that needs a heating and drying facility such as en-suite bedrooms, kitchens, cloakrooms or utility rooms.

There are three standard heights giving a choice of configurations and heat outputs. Also available is a range of electric towel warmers for applications where full room heating is not required.

All products are manufactured under BS 5750 : Part 2 quality management system, approved by BSI.

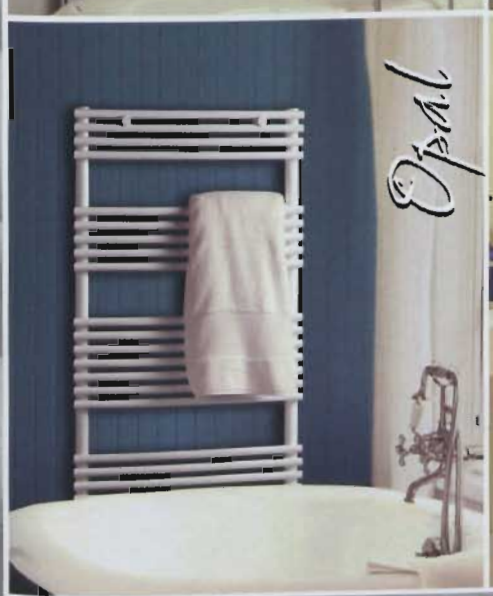
As part of the finishing, the radiators are degreased and phosphated before being epoxy polyester powder-coated and oven-baked to give an extremely durable, high-quality finish.

Contact: Veha Radiators.
Tel: 0404 67278;
Fax: 0404 67731.

Towel Design Radiators

BARLO towel RADIATORS

High quality, High Design, Low cost



Broomhill Business Park, Broomhill Road, Tallaght, Dublin 24, Ireland
Telephone +353-1-4940101 Fax +353-1-4940125

Copper — Tried, Tested and Proven

Copper tube, copper and copper alloy fittings have been widely used throughout Ireland for more than 60 years and have been extensively tried, tested and proven in service in all manner of applications, from water, gas, central heating and sanitation.

Throughout this time product standards have improved immensely and are now said to be the highest in the world with copper tube made to BS 2871 Pt.1 and copper and copper alloy fittings to BS.864 Pt.2

Copper tube, copper and copper alloy fittings are extremely versatile. They can be used in every part of a plumbing or heating system — including underfloor heating systems.

Copper tube is available as:—

— Soft temper coils for use in long continuous runs suitable for cold water, central heating, fuel, oil or gas. These are normally hidden within the fabric of a building;

— Hard temper straight lengths for use on straight exposed runs and suitable for hot and cold water, central heating and gas;

— Half-hard straight lengths for easily-made bends where changes in direction are required and off-sets needed. This tube is suitable for all applications of water, gas and sanitation;

— Coils of soft, half-hard and straight lengths with external coatings for use when external protection, identification of carried substance and lower surface temperatures are required;

— Hard and half-hard straight lengths externally plated with nickel, chromium, silver, gold, etc for use where hygienic or aesthetic aspects are important;

Fittings are available:—

— With compression or capillary ends for use in water and gas applications;

— In copper or brass for above ground use, and gunmetal of DZR for underground use;

— Plain or decoratively plated for use where particular hygiene or aesthetic aspects are important.

The primary benefits of copper are:—

Long lasting — Long life, high-quality, trouble-free installations are achieved because the mechanical and physical properties of copper and its alloys are maintained indefinitely;

Health & Safety — Copper is an essential element in the manufacture of haemoglobin. It is also required for many enzymes, without which our bodies cannot function;

Value for money — Copper is an economical option for plumbing and heating systems, and the cost of components is also competitive;

Recyclable — Copper tube, copper and copper alloy fittings need never be thrown away. When they have served their purpose they can be returned, remelted and refined. ;

Resists heat, corrosion, pressure and fire — The properties of copper are unique. Pure copper melts at 1083° and is very ductile. It maintains its physical and mechanical properties over a wide range of operating temperatures. For example, copper tube can operate at -40°C to 250°C, covering a range of applications from cryogenics to steam lines.

Copper and its alloys also have excellent corrosion resistance in all its forms. It can easily cope with domestic hot and cold water, gases, and a wide range of fluids. The pressure resistance of copper is also high ... tube and fittings can easily maintain the integrity of all normally-designed systems, including pressurised hot water and sealed central heating systems.

Copper is a homogenous metal whose structure makes it impermeable. Copper tube, copper and copper alloy fittings — unlike some other plumbing materials — do not allow contaminants to penetrate the tube wall and affect the water in the tube.

Contact: Conor Lennon, Irish Metal Industries.
Tel: 01 - 295 2344;
Fax: 01 - 295 2613;
email: conor.lennon@irish-metalindustries.com

'New Concept' From Heatmerchants

Heatmerchants, Ireland's largest suppliers of heating and plumbing equipment, have introduced a new radiator called the "New Concept". Launched at the end of October, this new radiator has many advantages over its predecessor the, 'Concept Plus'.

These include:—

— Wider selection of sizes;
— New grills;
— New quality paint finish.

All "New Concept" radiators still come with free top and side grills. The new look "Concept" radiator is definitely an improvement over the "Concept Plus" in terms of the wider selection of sizes now available, including:

— Single panel/single convector types – type K11B;
— Double panel/single convector types – type K21B;
— Double panel/double convector types – type K22B.

All "New Concept" radiators come with Heatmerchants unique 7-year, no-quibble, no fuss, manufacturer's guarantee, as well as a €40 replacement fee, should you have to take the radiator off a wall.

Contact your local branch representative for further information. They'll be only too delighted to discuss this new model with you.

Heatmerchants are also the exclusive distributors of the Baxi range of gas boilers in Ireland. Baxi is at the forefront of boiler design and technology. In fact Baxi boilers dominate the gas back-boiler market and the convector market in the UK.

In more recent years Baxi has expanded its central heating boiler range to include combination boilers. They now account for almost half of all gas boilers sold.

The "New Concept" radiator range from Heatmerchants

In recent years Baxi has expanded its central heating boiler range to include combination boilers. Details from Heatmerchants.

Baxi models sold through Heatmerchants include:—

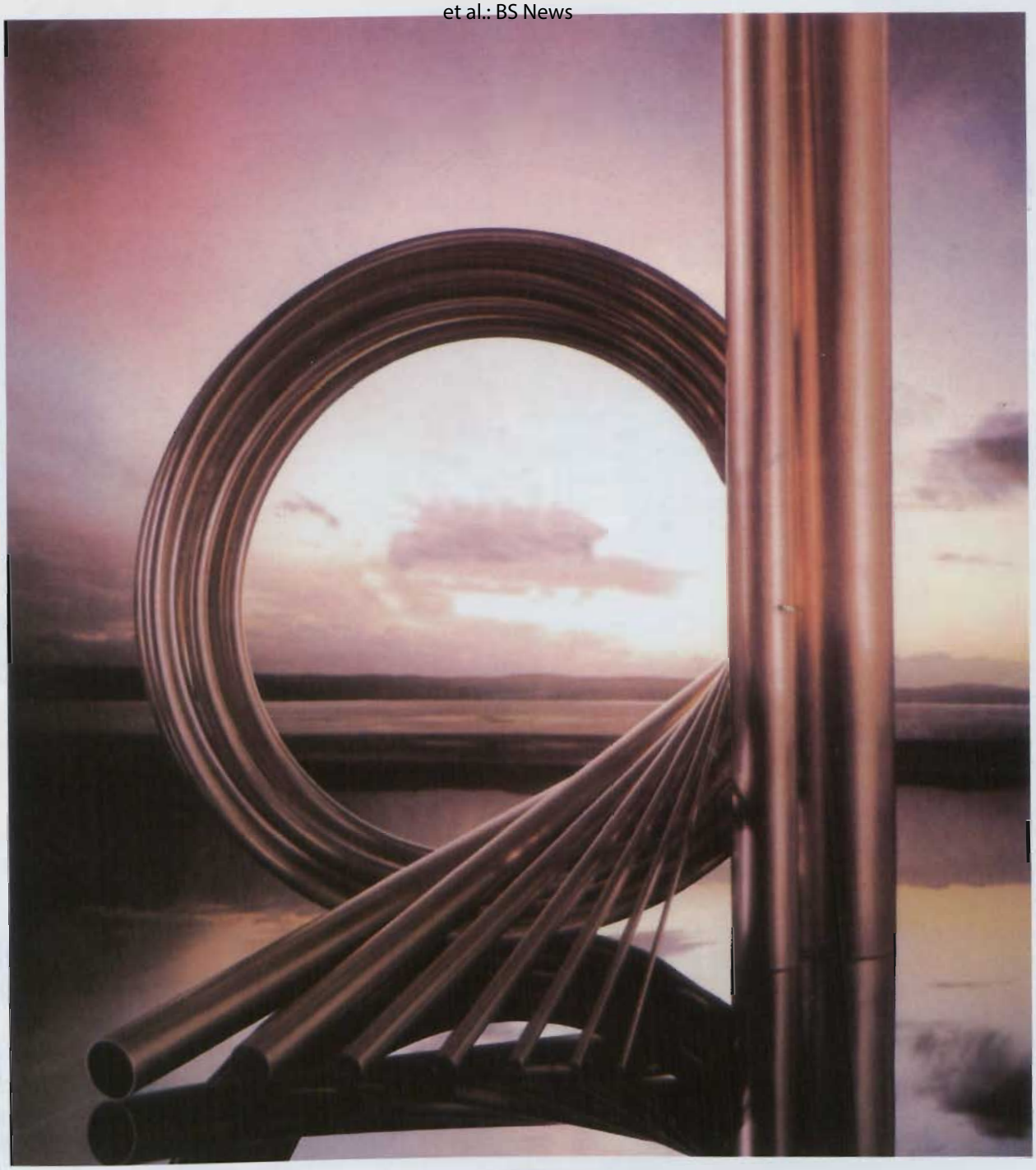
— Baxi Bermuda Range;
— Baxi Combi Range;
— Baxi System (Baxi 35/60 and Baxi 60/100) – which are available in both natural gas and LPG;
— Baxi Solo 3 PF (Baxi Solo 30, 40, 50, 60, 70, 80) – which are available for natural gas. They're ideal to fit into a kitchen application, as they are very compact and quiet to run;
— Baxi Combi 130 HE;
— Baxi 100 HE.

Heatmerchants are also stockists of Vokera gas boilers and Grant and Firebird oil boilers.

There are currently 30 Heatmerchants branches dotted all around the country as well as four further branches to open in January, including two in Dublin and one each in Drogheda and Wexford.

Heatmerchants branches are currently located in Arklow, Athlone, Bray, Castlebar, Cavan, Clonmel, Cork(3), Dublin(5), Dundalk, Dungarvan, Ennis, Galway, Kilkenny, Letterkenny, Limerick(2), Mallow, Mullingar, Naas, Navan, Portlaoise, Sligo, Tralee & Waterford. Check out the website @ www.heatmerchants.ie for your nearest branch details.

Heatmerchants also has a call centre in Athlone that deals with all gas spares information/ordering – Tel: 090 - 644 2300.



All our tubes are up to the Mark

IRISH METAL INDUSTRIES

Irish Metal Industries supply a complete range of copper tube for hot and cold water installations, gas services, sanitation, central heating and numerous other building and engineering applications.
All our tubes are manufactured to the stringent requirements of EN : 1057 and we are licensed to engrave them with the coveted Irish Standard Mark which is the registered mark of the National Standards Authority in Ireland. What's more we give a unique **25 year guarantee** against manufacturing defect. So what ever your requirements you'll receive nothing but the best quality, service and reliability with copper tube from Irish Metal Industries.
Service Line: For orders and further information.
Telephone: (01) 295 2344/295 2137.
Fax: (01) 295 2163
Irish Metal Industries Ltd, 25 Spruce Avenue, Stillorgan Industrial Park, Blackrock, Co Dublin.

KME

Barlo – High Performance, Safety and Aesthetics

With its smooth, slim and shapely contours, and with none of the ugly top-tappings so rarely needed on domestic systems, the Barlo Round-Top radiator combines a discreet, modern appearance with high performance and classic good looks for safety, style and high performance.

Compare this to the sharp welded edge of a seam-top, and you'll see why it is potentially less hazardous to tumbling toddlers or the elderly.

A Barlo Round-Top radiator is hygienic and easy to keep clean, with none of those awkward top tappings or seams to collect dust, weep, or go rusty. The smooth, easy-to-wipe surface of its durable, powder-coated finish will keep on looking good year after year.

Choose from the standard range of 185 Round-Top radiators, all of which are available ex-stock. With widths from 300mm (11") and six heights down to 220mm (8"), it is the most versatile range available, with size and heat output options to meet the most demanding of specifications.

Turning to the Barlo LST range, with a choice of 46 sizes covering a wide range of heat outputs, there is a model to suit just about every application. Because the casings can be easily retrofitted around any suitable existing emitter, they are also ideal for refurbishment and upgrading.

The Barlo LST features a strong, single-piece casing that is easy to install, so fitting time is kept to an absolute minimum. Compare this to other LST's with their fiddly, bolt-together covers and grilles, and you'll see why total installation costs are dramatically reduced.

The Barlo LST features a strong, single-piece casing that is easy to install

With no visible welds or ugly,dust-catching joints, Barlo LST radiators are both attractive and hygienic. The casing is forward-hinged, allowing easy access to the emitter for internal cleaning and maintenance, but with a simple locking device to prevent unauthorised access.

The Jewel range of Pearl and Opal bathroom radiators from Barlo are as functional as they are attractive. With outputs up to 1453W, they will comfortably heat even the largest of bathrooms on cold winter days as part of the central heating system.

Jewel provides the power and performance of a radiator along with appealing, practical designs to combine all the convenience of a spacious towel rail with the luxury of warm, dry towels at any time of the day.

More and more people are warming to the beauty of a Barlo towel radiator in the bathroom. They are available in a range of sizes and heat outputs to suit all bathrooms and offer a wide choice of flat profiled (Pearl) or rounded (Opal) rails. All carry a 5-year guarantee.

Unmistakably superior in style, appearance and quality, they are available from stockists everywhere and can be easily fitted into new or existing bathrooms.

The luxury of warm towels is also possible when the central heating season ends. With the option of a separate electric heating element, the towel radiator becomes a summer towel warmer at the flick of a switch.

Contact: Oliver Fitzpatrick, Barlo Radiators.
Tel: 052 - 27377.
Fax: 056 - 22195;
email: barlosls@indigo.ie

Barlo round-top radiators are clean and hygienic, in addition to offering excellent heat outputs

Give your customers the power of climate control

TP5000, the programmable room thermostat.

When it comes to matching your customer's way of life to the control of their heating system, the TP5000 programmable thermostat has the power of climate control. So adaptable that it can be programmed to provide up to six different time and temperature events each day of the week, with different settings for the weekend. So user friendly that it can be programmed almost without instructions. So easy to use that callbacks are a thing of the past.

It is also the ideal controls solution for combi boiler systems.

Good ideas working for you, right around the clock.

Danfoss Ireland Ltd. Nangor Road Business Park, Dublin 12.
Tel: 01 6268111 Fax: 01 6269334
email: marketing@danfoss.ie

Danfoss

MAKING GOOD IDEAS WORK!

TP5000-RF
The radio controlled range

RAS-D
The domestic radiator thermostat

MK18 time controls
The complete time control range

Myson Valves Put Finishing Touches To Attractive Radiators

Anyone with an eye for fashion, art and design knows that the finest of materials still need attention to small details, and the finest of finishing touches, to look their best. A great artist would never display his finest original in a tatty old frame, and a Versace dress will never look chic if worn with a pair of old boots.

Strange as the connection may seem, the same can be said about radiators, especially now that decorative heating products are all the fashion. That is why Myson's new Decorative Range of valves is designed to be the ultimate finishing touch.

The three models in the Decorative Range are themselves beautifully hand-finished in polished chrome, and are designed to complement Myson's newer, more fashionable products, such as the Column or Décor radiators.

The Column and Décor radiators have become highly popular additions to Myson's range, as the company continues to lead the pack in producing high-quality, fashionable radiators. It is no surprise that the valves, which are available in handwheel, lockshield and thermostatically-controlled models, are following in their footsteps since being launched last year.

There are 11 variants within the range, including angle, straight for horizontal mounting, and straight for vertical mounting. Although intended for the feature radiator market, the straight for vertical mounting decorative valves are proving a real hit in the towel warmer sector, for those who appreciate the contemporary look.

The polished chrome thermostatic decorative valve incorporates the same highly-accurate, liquid-filled element and 2-way technology as the Myson 2-Way TRV range.

The entire decorative range of valves is suitable for connection to either 15mm or " bsp pipe.

Each model has a maximum operating pressure of ten bar and temperature of 120°C. The handwheel and lockshield fully comply with BS 2767-10, while the thermostatically controlled valve is quality assured to BS EN215.

Contact: Vincent Broderick, Potterton Myson (Irl).
Tel: 01 - 459 0870;
email: post@potterton-myson.ie
Web: www.myson.ie

Chappee — A Lifetime of Comfort Assured With Authentic Cast Iron

High quality and extremely traditional, cast iron has always been sought after for its natural qualities. Guaranteed for life and shock and corrosion-resistant, it is timeless and represents life-long investment in gentle, controlled heat and total safety.

The Chappee cast iron range from Hevac represents:

— Long life;
— Quiet operation;
— A financial asset;
— High quality material
— Comfortable, natural heating.

Chappee cast iron radiators are the result of proven technology. Comfort is ensured by the diffusion of optimal heat — aerodynamic shapes for convection; thermal exchange enhanced by the size of the hot air passages; and flat aspect for exceptional radiation.

Comfort is optimised by compact size with maximum output, whatever the size of the rooms to be heated. Cast iron is naturally quiet and does not crack or vibrate with variations in temperature, so there is none of the noise associated with other radiator types.

Cast iron has developed over time and the Savane and Dune 2 models are proof of this. The flat aspect of Savane makes it possible to combine it perfectly with any style of decoration. The elegance of its lines makes it a refined addition to any décor style.

Savane represents the perfect ready-to-assemble radiator. Evolutionary, the radiator can be adapted in height, width and power for all needs in terms of decor and comfort. Compact, flat and covered with a base coat of protective paint, radiators are easily painted over in the colour of choice. Watercolour, bracing shades or trompe l'œil ... anything is possible.

The new range of cast iron Savane radiators provides various installation options and meets all requirements in respect of quality, comfort, price, choice and safety. Recognised as the cast iron radiator that offers the best value for price and performance, the Dune 2 range is all the time evolving. Adjustable, the structure of its units ensures a good diffusion of heat in order to respond to the needs of even the largest rooms.

The Chappee Savane from Hevac

In the same way as Savane, Dune 2 is delivered primer-coated white, thus suiting the requirements of a renovation. Just like its renowned relatives, it comes with the benefit of a lifetime guarantee. The art deco trend is also very much in evidence in the Chappee range in the form of the Floreal radiator.

Modelled on the style of the decor in old and prestigious houses, this design has been enriched by a model of the same shape but with a smooth finish.

To provide the end-user with the very best in heating, the entire Chappee range of cast iron radiators has a lifetime guarantee, their performance regularly checked by CETIAT. They also conform to the requirements of the European Standard NF EN 442.

Contact: Karl Carrick, Hevac.
Tel: 01 - 419 19 19;
Fax: 01 - 458 4806;
email: karlc@hevac.ie

Cheque mate

Keep ahead with Honeywell.

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

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

Make the smart move - use Honeywell

Honeywell

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Honeywell Control Systems Limited
Honeywell House, Bracknell
Berkshire, RG12 1EB
Tel: +44 1344 656000

Sheffield Office
Honeywell Control Systems Limited
119 Psalter Lane, Sheffield
Yorkshire S11 8YR
Tel +44 114 255 6451

Honeywell TRVs Reverse-Flow Design

Honeywell's TRV reverse-flow range which is available from C&F Quadrant

A unique reversible flow design in all Honeywell thermostatic radiator valves (TRVs) means they work in either flow direction without any setting-up, unlike some 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 Michael melligan of distributors C&F Quadrant.

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, which feature a wax-filled sensor within traditional-style fluted heads on a nickel-plated body; and the stylish VT200 which has a chrome top and a liquid-filled sensor mounted on a special chrome body. All valves are easy to install using 15mm, 10mm or 8mm copper compression connections.

Also available from C&F Quadrant is Honeywell's new D04 "no frills" pressure-reducing valve, featuring a simple construction and output pressure adjustment knob. It provides excellent value as a means to protect household, industrial and commercial installations from damage caused by excessive water supply pressure. By maintaining a constant ideal pressure, it also reduces water consumption and minimises flow noise in the system.

The D04 has a brass, dezincification-resistant body with 15mm or 20mm internal threads and 15mm and 22mm compression connection options. It has a setpoint range from 1.5-bar to 6-bar and its pressure adjustment spring is not in contact with the potable water. Pressure gauges up to 4-bar and 10-bar are optionally available.

Contact: Michael Melligan, C&F Quadrant.
Tel: 01 - 630 5757;
email: sales@cfquadrant.ie

Siemens Thermostatic Radiator Valves

Control valves ensure comfort by providing the right amount of heating or cooling energy. They are expected to perform their task invisibly and inaudibly, in perfect reliability for many years. This is exactly what can expect from a Siemens control valve.

Siemens thermostatic radiator valves are based on the combined expertise of the former Landis & Gyr and Staefa Control System companies as leading developers and manufacturers in the field. Under the Acvatix brand Siemens offers one of the widest selections of HVAC control valves in the marketplace, ranging from domestic radiator valves for domestic and commercial situations, right up to large DN150/PN40 valves for district heating plants.

These and other residential and industrial Siemens products are available from Fläkt woods.

Contact: Dave McMenamin or Martin Burke, Fläkt Woods (Ireland).
Tel: 01 - 463 4600;
email: david.mcmenamin@fläkt woods.com; martin.burke@flakt woods.com

Siemens thermostatic radiator valves are based on the combined expertise of the former Landis & Gyr and Staefa Control System

Derek Phelan

Sales & Marketing Director, GT Phelan Ltd *

In My Opinion ...

In the first of an occasional series called *In My Opinion*, Derek Phelan, Sales & Marketing Director, GT Phelan, demystifies the regulatory controls scheduled to come into force in relation to the energy performance of ac equipment.

Room air conditioners (RACs) are being increasingly used in small computer rooms, offices, factories and retail applications. As part of its commitment to reduce CO2 emissions under the Kyoto protocol, the European Union has required member states, including Ireland, to introduce a common EU Energy Label on RACs.

Four main types of units are covered by the new energy labelling regulations:

— Single-packaged units;
— Split-packaged units;
— Multi-split-packaged units;
— Single-duct air-conditioners.

The units may be air or water cooled, and there are separate standards for each main type. The regulations do not apply to portable air-conditioners, dehumidifiers or evaporative coolers.

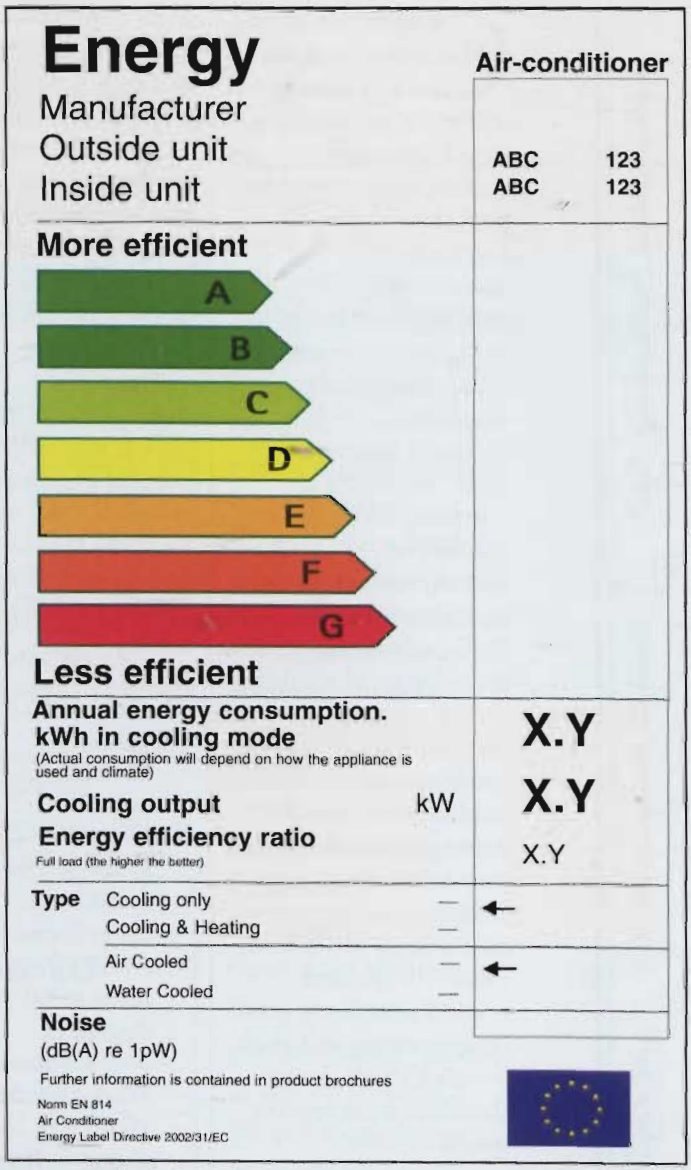
Performance is generally measured using an energy efficiency ratio (EER), where EER = Pc / Pe where Pc is the cooling capacity of the air conditioner and Pe the electrical consumption, both measured in kW.

The Label

In common with other, mainly domestic, equipment covered by EU energy labels, room air-conditioners are graded on a scale from A to G, where A represents the best equipment that is widely available, and G the worst. The EU also intends to use the labelling process to introduce mandatory minimum standards at a later date.

With this in mind, it is suggested that air conditioning equipment with an energy label "G" will be banned for sale within the EU from the end of 2004. RACs with an energy label "F" will be banned for sale within the EU from the end of 2006. In order to qualify for inclusion in the energy efficient class, manufacturers are required to produce inverter drive systems operating on R410a.

In time, we will see a complete shift towards these inverter drive machines and the end of direct-start units. If you intend to purchase or specify room air-conditioning equipment, you should consider the following:



Equipment with a higher rating may cost a little more initially, but G-rated equipment will use 50% more electricity under normal operating conditions than A-rated units. The energy label will also show estimated annual energy consumption (based on 500 hours of continuous operation) in kWh; comparing two labels on different RACs will enable the annual cost saving between one and the other to be calculated quite simply.

The Energy Label for RAC is effective from 1 January 2004, and is mandatory for all units with an input power of less than 12kW.

* GT Phelan Ltd is the Toshiba distributor for Ireland. For more details visit www.gtphelan.ie

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ELECTRICAL SERVICES ENGINEERING

Continuing Professional Development

By Dr Philip Riseborough
City & Guilds
Head of Higher Level Qualifications

City & Guilds has been engaged in a key strategic initiative to develop new higher-level qualifications over the past three years. This higher level qualifications development is designed to provide a more vocationally-orientated, work-focussed alternative to HNC's/HND's as currently available in the market, encompassing personal development, key skills, advanced knowledge of a subject sector, advanced professional skills, and professional/vocational management/owner management skills. The development is also designed to provide an all-through route from Level 1 VQ's and related vocational qualifications to Level 5 with City & Guilds, therefore building on brand loyalty, increasing provision of course certification, and revenue to the group.

Many people will remember that before the creation of BTEC/Edexcel, City & Guilds was the certificating body for HNC's / HND's from their creation in 1946 to the early 1970's. So, we are really re-creating and re-establishing our presence at this level in the qualifications marketplace.

Two levels of qualifications have been created — Higher Professional Diploma at Level 4 and Master Professional Diploma at Level 5. Unit content for both qualifications has been created by involvement of national training bodies, professional bodies, major companies/organisations in the sector, key centres for current products, national chief verifier/verifiers for the sector, and existing C&G product management staff.

The key features of HPD's are:

— 12 units for full award;
— Units that can be individually certificated;
— Clear focus on 120 credit structure – links to 1st year of degree or Foundation Degree;
— Work-based focus;
— Written in learning outcome format.

In terms of the HPD in construction, the structure and content is as follows.

Students must complete all of the units:

— Developing self, individuals and the team;
— Building legislation, health and safety in construction;
— Working relations and communication;
— Construction methods;
— Construction technology.

In addition, students must complete six of the following:

— Efficient materials handling;
— Efficient plant and equipment management;
— Employing workforce;
— Employing and managing sub-contractors;
— Estimating;
— Applying CAD in construction;
— Managing components of the contract document;
— Property surveys;
— Prepare and agree budgets prices;
— Seek tenders and awards contracts;
— Health & safety for client, designer & planning supervisors;
— Understand the content of estimates and tenders;
— Finance in construction;
— Efficient project planning;
— Setting up the construction site;
— Plan and control work to meet project requirements;
— Monitor the provision and use of resources;
— Applying and maintaining quality standards.

The key features of MPDs are:

— Eight units for full award;
— Units that can be individually certificated;
— Links to Masters Degree at least half a Masters;
— Work-based focus;
— Written in learning outcome format.

In terms of the MPD in construction, the structure and content is as follows.

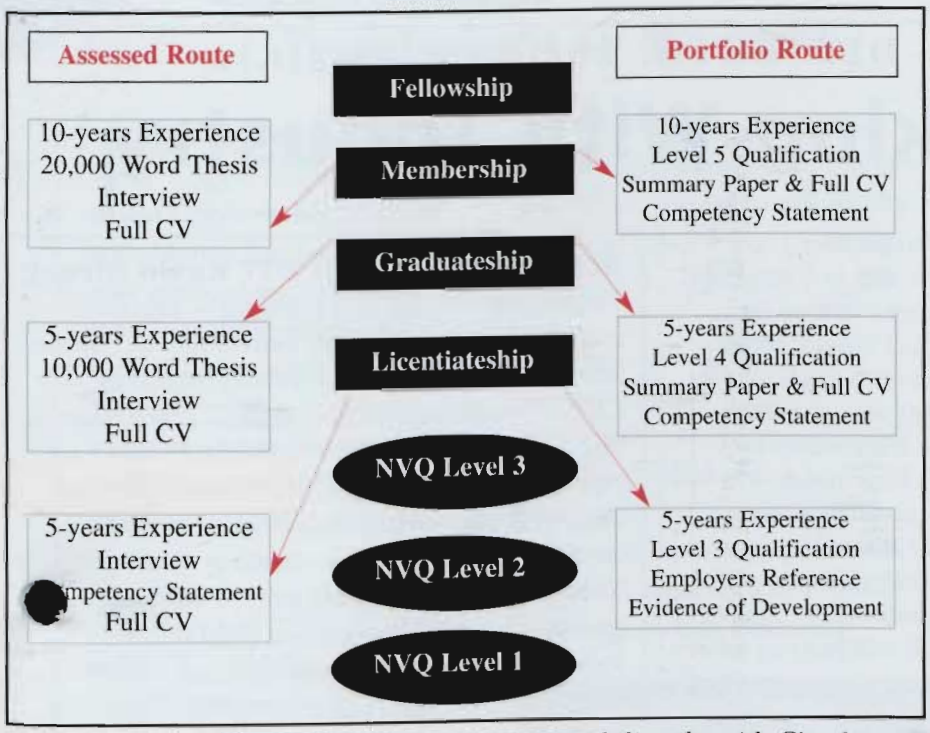
Students must complete all of these units:

— Developing the reflective practitioner;
— Research project;
— Project management;
— Managing construction work and technology.

Additionally, any four of the following must be completed.

— Law & contracts;
— Efficient materials management;
— Efficient plant & equipment management;
— Employing & managing sub-contractors;
— Site & project surveys;
— Site & project management;
— Resources management;

Support for Building Services Engineers



The Assessed and Portfolio routes can be accessed directly with City & Guilds. We can provide an assessment route direct to candidates which gives candidates a personal advisor and will arrange the assessment process for the candidate.

For information on the foregoing contact: Senior Awards Department. Tel 0044 207 294 3474; and the HLQ Department, Tel: 0044 207 294 2752.

In the last two years we have also taken responsibility for managing and administration of the Engineering Council Exams. These provide a route to Chartered Engineer recognition and status.

Linkage EC Qualifications to Senior Awards

Certificate	**Eng. Technician**	**Licentiateship**
Graduate Diploma	**Incorporated Engineer**	**Graduateship**
Post-Graduate Diploma	**Chartered Engineer**	**Membership**

For information on Engineering Council Exams, contact City & Guilds on Tel: 0044 207 294 2658.

— IT in construction;
— Working with people;
— Managing people;
— Design processes in construction;
— Quality assurance & innovation.

As well as these developments in qualifications at higher levels we also have Senior Awards. These emanate from our Royal Charter, awarded in 1900, and enable us to give general professional recognition to individuals across all sectors with designatory letters LCGI, GCGI, MCGI and FCGI.

The three levels are:

Level 1 — Certificate
6 subjects, 4 of which are compulsory.
The entry requirement is passes in two A levels (or their equivalent) in mathematicsor science subjects.

Level 2 — Graduate Diploma
Passes must be gained in five technical subjects and a project. Entry requirement is Engineering Council Certificate or academic achievement deemed to be an equivalent standard.

Level 3 — Postgraduate Diploma
5 units of 31.
Engineering Council Graduate Dimploma. Entry requirement is the Graduate Diploma or achievement of a BEng (Hons) degree accredited by a professional UK institution.

There is also connectivity between these qualifications and Senior Awards as shown in the table below and these readers who already hold ENG Tech, IEng or Chartered Engineer standing by this or any other qualification route can apply for our Senior Awards.

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Plumb Lines

Heard it on the grapevine ...

Show Them Who's Boss — Want to appear on TV, get free business **advice** and solve your business problems? You may know the **BBC2 series** "I'll Show Them Who's Boss" where **business guru** Gerry Robinson goes into family businesses in some kind of trouble and tries to help them find their way out. It is now working on the second series, which will go out **on BBC2** in the summer of 2004. The producers contacted *BSNews* recently looking for **family businesses** to feature in the series.
Gerry Robinson is an acclaimed businessmen, and has run **Coca-Cola**, Granada and Compass in his time. He is now Chairman of **Allied Domecq** and The Arts Council.
Companies that acted upon Gerry's advice have seen their businesses go from **strength to strength**.
If your business is a **family concern** with at least two family members in key roles; has a turnover of at least **€1 million** (preferably more); has at least **20 staff;** and is facing a problem, you could qualify to participate.
Interested? ... then call **Plumb Lines** for details.

McGlade Steps Down — After many years of selfless service to the IDHE **Eamon McGlade** has finally stepped down. Eamon has been involved with the Institute in quite a number of capacities, the most recent being **Honorary Secretary**. I wish him well and thank him on behalf of all for his massive contribution, not just to the IDHE but to the industry at large.
Another long-time IDHE servant, **Joe Newman**, has taken on the role of Honorary Secretary. He is currently driving a major **reorganisation** of the Institute and would welcome suggestions and input from interested parties. He can be contacted directly at **Tel: 087 245 7729**.

Hairy Baby — On seeing the old photograph of Brendan Bracken in our last issue, **Rodney Phelan** was prompted to ask: "Was he **born** with a beard?" Good question Rodney. Just how long has Brendan sported a beard? Answers by **telephone** please to 01 - 288 5001. Bottle of **champagne** for the closest guess.
Brendan, you need not enter!

Get Well Mark— Anyone who knows the Cooneys of **Reconair** fame know that they are all into extreme outdoor pursuits.
Unfortunately, **Mark** injured his back not too long ago and has had a great deal of pain, with his mobility somewhat hindered. To make matters worse, they were in the middle of **moving** to their new premises in Finglas Business Centre, Dublin 11.
Recent weeks has seen a marked (sic!) **improvement** in his condition. If you want to send him good wishes, you can get him at Tel: 01 - 864 4397; email: mc@reconair.ie.
Good to see you getting back to normal Mark but, a word of caution ... **Slow Down!!!**

REGII To Rescue — Congratulations to **Kevin Farrelly** and his REGII colleagues. The domestic installation sector was in **dire need** of an effective representative voice. In a very short space of time **tremendous** progress has been made, not least being the impending **Register** (see page 2) which the **Government** is to have in place by mid-2004.

Water For People — While we take the ready **availability** of water for granted, WHO/UNICEF estimates that the lack of water in developing countries results in **6,000 deaths** every day, mostly children.
Water For People is an international **non-profit**, development organisation committed to the long-term impact of increased access to safe drinking water and improved sanitation and **health** throughout the world.
Make a difference ... make an online contribution now at **www.waterforpeople.com**

21 Years Ago Today!

The date was March 1982 and the occasion was the appointment of **Dudley Foster** to the board of directors of Marley Flooring & Plumbing Ltd. At this stage Dudley had already spent 10 years with the company, having first joined as sales representative serving the western region in 1972.
That makes for a service record with the company of more than **30 years!**
Congratulations Dudley.

Plumb Lines

3D Air Sales (Ireland) Ltd,
Unit 8, Greenhills Business Centre,
Greenhills Industrial Estate,Tallaght, Dublin 24.
Tel: 01 - 462 7570 Fax: 01 - 462 7611
email: micclan1@eircom.net www.3dair.co.uk

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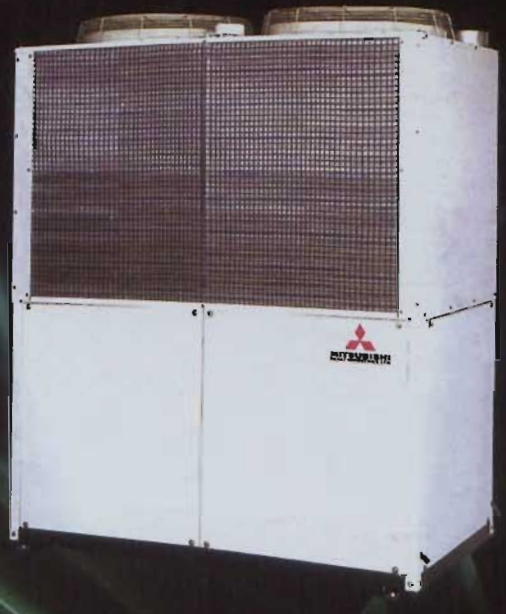
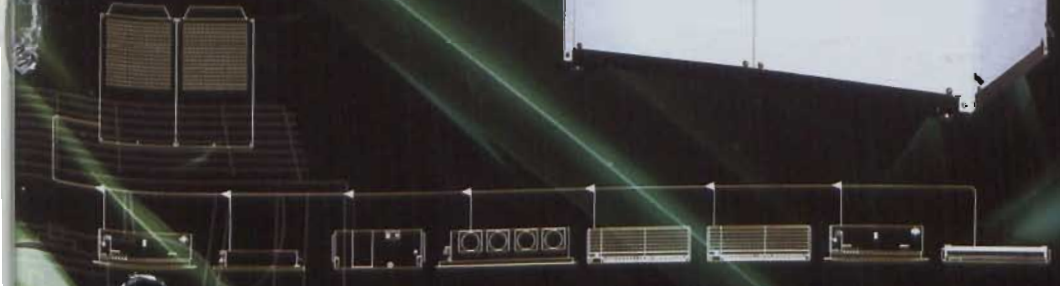
GHP Gas Engine Powered VRF Systems

Variable Capacity Cooling / Heat Pump Systems





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

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

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

In winter, the heating performance is maintained in very cold ambient conditions, because the waste heat from the engine is utilised as a secondary heat source to enhance the output of the heat pump.

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

MITSUBISHI HEAVY INDUSTRIES, LTD.

Measurement Technology From Manotherm

Complete Solutions

— Individual sensors, power supplies and measurement display units

— National & International Approvals Certificates

— Perfect adaption to the process

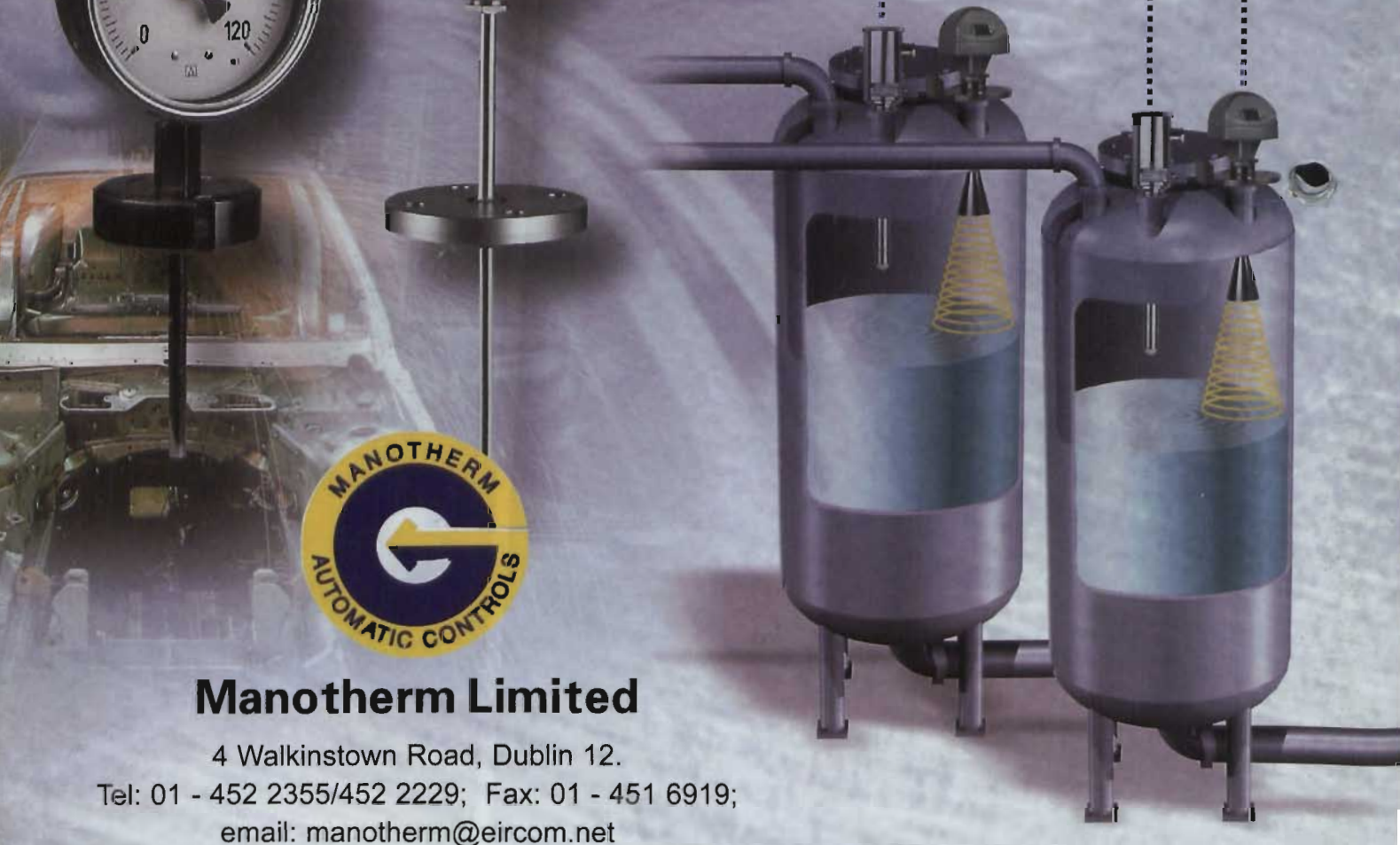
— Entirely-engineered control systems

— Pressure: 0/4 mbar to 0/4.000 bar

— Temperature: -80°C to 600°C

— Level: 0/60cm to 0/100m

Bimetal and Gas Filled Thermometers | Resistance Thermometers | Level Measurement and Control Devices



MANOTHERM AUTOMATIC CONTROLS

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