INSIDE

Finheat: 12-page, full colour profile

Danfoss acquires J J Sampson & Son

Carrier & Toshiba global alliance

Fred’s quest for clean air leads to Mt. Blanc!
TRIFLOW FITTINGS

The ORIGINAL Quality Lead-Free Solder Ring Fitting

Approved for use with Copper Tube to IS/EN 1057:1996
National Standards Authority of Ireland ISO 9000:1987

The FITTING with a pedigree

Triflow TP potable integral solder ring fittings are manufactured in accordance with BS 864: Part 2. The symbol on Triflow products guarantees a Lead-Free fitting.

Available in sizes from 15mm - 54mm (1/2" to 2")

Introduced into the Irish market by Hevac Ltd back in 1983

Hevac Ltd. 70/72 Lower Dorset Street, Dublin 1. Tel: 01 - 830 1211; Fax: 01 - 830 1990
Specifiers & Buyers Purchasing Bible

With over 5,000 cross-referenced, indexed, entries in the forthcoming issue of the BSNews Building Services Buyer Guide, it is by far the largest and most comprehensive ever produced.

The product category/brand-led format has been further refined, making it even easier still to find that all-important product when specifying and/or placing an order. Both mechanical and electrical product details are included, along with named contact points.

As such, the forthcoming Guide is the definitive “Who Represents Whom” of the entire building services sector, covering manufacturers, distributors, agents and stockists.

Everyone on the BSNews circulation list will receive their own personal copy over the coming weeks. If you require additional copies for colleagues or associates, call:- Edel Burke at Tel: 01 - 288 5001.

COVER PHOTOGRAPH - After what must be one of the longest goodbyes ever, Fred Cooney has finally retired to concentrate full-time on “outdoor pursuits”. His immediate plans include two months mountain climbing, a canoeing trip, and some deep sea diving.

Fred was taken totally unawares recently at the Mitsubishi Electric Air Conditioning Division annual golf outing at Druids Glen. Fergus Madigan called on Bart Reynolds, AIB Group who presented Fred with a cleverly-executed caricature depicting Fred’s many favourite past-times, while Fergus himself made a presentation of a beautiful piece of cut-glass.

Cover picture shows Fergus Madigan, President Mitsubishi Electric Ireland and Director Mitsubishi Electric Europe with Mr Kanai, Business Unit President for Living Environmental Systems, Mitsubishi Electric Europe; Mike Sheehan, Manager Mitsubishi Electric Air Conditioning Division; Bart Reynolds, AIB Group; and Fred Cooney. Full report in our next issue.

IN THIS ISSUE

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toshiba &amp; Carrier “Global Alliance”</td>
<td>2</td>
</tr>
<tr>
<td>Trade and Product News</td>
<td>3</td>
</tr>
<tr>
<td>Finheat 12-page full colour profile</td>
<td>9</td>
</tr>
<tr>
<td>SystemLink – Heat where you want it, when you want it</td>
<td>21</td>
</tr>
<tr>
<td>Refrigerant Gases Update – East Meets West</td>
<td>23</td>
</tr>
<tr>
<td>Flues for Condensing Boilers</td>
<td>24</td>
</tr>
<tr>
<td>Refrigerants and Air Conditioning – The Current Climate</td>
<td>26</td>
</tr>
<tr>
<td>Danfoss A/S Acquires J J Sampson &amp; Son</td>
<td>28</td>
</tr>
</tbody>
</table>
Toshiba and Carrier 'Global Alliance'

Toshiba Corporation has signed a "memorandum of understanding" with the intent of forming a global alliance with Carrier Corporation, the world's largest manufacturer of air conditioning equipment systems.

Under this alliance, Toshiba Corporation will separate its Air Conditioning Equipment Division, and establish a joint-venture company in Japan called Toshiba Carrier Corporation.

The new global alliance will highlight the technology leadership and manufacturing experience of both companies and combine their complementary sales and marketing networks. It will also allow Carrier and Toshiba Carrier Corporation market HVAC products with both Carrier and Toshiba trademarks worldwide.

Besides forming a joint venture in Japan, a manufacturing/production joint venture will be established between Toshiba Carrier Corporation and Carrier in the UK and Thailand. Both companies will also set up a marketing and sales joint venture in the UK, Thailand and Malaysia. These steps will allow Toshiba and Carrier to promote further penetration of their products and brands to the world market.

The alliance embraces four key points:

1. The two companies plan to establish the Toshiba Carrier Corporation, a Japan-based joint venture, with 1 April, 1999 as a target date. Toshiba Corporation will take a 60% stake and Carrier a 40% stake. Toshiba's current Air Conditioning Equipment Division, along with Fuji works and the related manufacturing plant in Fuji City, Shizuoka, will be transferred to the new joint venture.

2. Carrier's Japanese subsidiary, Toyo Carrier, and Toshiba's affiliate company, Toshiba Builders Appliance Co Ltd (and its local operations) will become wholly-owned subsidiaries of Toshiba Carrier Corporation, positioning the joint venture to promote integrated sales and marketing of air-conditioning systems covering the widest breadth of product offerings in the marketplace;

3. Joint venture manufacturing companies will be formed in the UK in which Carrier will hold a majority interest, and in Thailand where Carrier and Toshiba Carrier Corporation will own equal interests in the venture. Toshiba's current air-conditioner manufacturing operations in both countries, conducted by Toshiba's local subsidiaries, will be transferred to these new joint ventures;

4. Further, Carrier will integrate Toshiba's HVAC-related sales organisations with Carrier's existing operations in countries such as Singapore, Hong Kong, France and Germany. Carrier will complement its current line of products by also promoting Toshiba-branded HVAC products globally.

What operational significance, if any, this development has for the Irish market is not known. As the situation currently stands the arrangements with G T Phelan (Toshiba) and Core Air Conditioning (Carrier) remain in place.
Carrier For Central Library

Advanced Air has completed the installation of a Carrier 30GZ08S air cooled chiller with a cooling capacity of 244 kilowatts at the Central Library in Dublin for Dublin Corporation. This range of chillers - supplied by Carrier distributors Core Air Conditioning - is designed for operation with refrigerant HFC-407C to meet new environmental protection requirements.

Due to the reliability with the new Pro-Dialog Plus full microprocessor control which transduces all control signals through cable similar for example to Boeing aircraft, the reliability and service down-time is next to nothing. With new technology concepts applied throughout its design, the chiller is substantially reduced in size and noise levels, even on full load, are one of the quietest in the industry.

Efficiency is one of Carrier's biggest advantages. Part-loading on the serviceable reciprocating compressors coupled with the electronic expansion which communicates at a baud rate of 2-seconds with the chiller, assures that efficiency, and reliability.

Photograph shows the Carrier 30GZ08S air cooled chiller being hoisted into position at the Central Library in Dublin's Ilac Centre. Supplied by Core Air Conditioning, installation was carried out by Advanced Air.

Protex ... Irish-Made Central Heating Protection

The Protex range of central heating protectors was conceived, developed - and is now manufactured - by Dublin-based Excel Industries' own, in-house, R&D laboratory.

It is a chemically-formulated product for use in wet central heating systems, all products in the range also being suitable for systems containing aluminium.

There are five different products in the Protex range, including a corrosion inhibitor; a de-scaler; universal cleanser; leak sealant; and anti-freeze.

Extensive field trials were conducted to assess and verify the products capabilities, and all performed exceptionally well.

Additionally, attractive packaging was devised as the products are, in the main, a "shelf" item.

Contact: Gearoid Byrne, Excel Industries. Tel: 01 - 820 7900.
Extensive Additions to Hitachi Range

Following sustained R&D activity, Hitachi Europe has announced a number of significant product range extensions and enhancements which are now available from Rink Air Conditioning.

The Utopia range of split systems now incorporates new floor-mounted types, available in 5.0kW, 6.30kW and 7.30kW respectively, cooling only and heat versions, all produced at Hitachi’s advanced engineering facility, HAPE, on the outskirts of Barcelona, Spain. The floor-mounted range will be further extended to include capacities up to 14.40kW later this year.

In a further development of the Utopia range, a new size has been introduced with a nominal cooling capacity of 8.10kW, in the cassette, above-ceiling and ceiling-suspended types. The ceiling-suspended models also benefit from a further extension in capacities, with new models at 5kW and 6.30kW respectively.

As part of Hitachi’s commitment to the environment, the company has developed and made available the unique “Econo-Fresh” system, with R407C. Econo-Fresh is a full fresh air, above-ceiling ductable system, offering incomparable levels of efficiency and superb indoor air quality. Econo-Fresh has proved a popular choice with all segments of the market due to the ease of application, installation and operation.

Ashworth Frazer at Glasson

A great day at Glasson Golf and Country Club was had on Friday, 3 July 1998, for the Ashworth Frazer Corporate Golf Day with over 80 playing. The perfect playing conditions on a magnificent course brought in some good scores and the good food and entertainment from Syl Fox added to the day’s enjoyment. The winners were:

**Overall** - Billy Shiel with 41 pts.

**Class I - 1st**: Paul Reilly (Irish Sprinkler); 2nd: Stephen Higgins (Shawmac); 3rd: Frank Robinson (Mercury Engineering);

**Class II - 1st**: Jim Aune (Project Management); 2nd: Jim Lacey (P Bolands); 3rd: Brian Gregan (Sth Dublin Co Co);

**Front 9 - 1st**: John Finan (T E Lynskey); 2nd: John Smith (Jones Environmental);

**Back 9 - 1st**: Peter Byrne (P Boland); 2nd: Darren Nee (Egans H&P).
Let's face it, some events take you by surprise. And they can often cost more than the pounds in your pocket. What about your reputation? Can you really afford to play around with that? With a copper plumbing system you know you're getting proven reliability and versatility. That's why it's been the professional's choice for the past forty years.

But, hey if it's surprises you like, don't mind me. I'll just get back in my box, Jack.
Ventilation Association
Open for Membership

The Ventilation Association of Ireland (VAI) has been running behind the scenes for the past two years and is now ready to accept members. The VAI's committee will be made up of a mix of suppliers, manufacturers, and distributors to the ventilation industry; a consulting engineer; an air-conditioning distributor; and a ventilation contracting company.

The fees for joining will be set at a flat rate—one each for manufacturing/distributors; contracting companies; and individuals.

The objective of the VAI is to form a bone fide register of the industry who are prepared to operate to, and abide by, a code of ethics laid down by the Association.

The cost of membership in the first year is minimal, but will increase pro-rata over the years as the Association develops to offer more services to members.

The VAI will be formally launched in November. If you require any further information on the Association, membership costs, or details of the benefits of membership, please contact Ciaron King in Ventac at Tel: 01 - 677 1077; 086 - 255 9659.

Mark Tanner Unit Heaters

The Mark Tanner range of heaters are widely used for heating various types of buildings such as factories, storage halls, showrooms, gyms, restaurants, garages, and shops, etc.

They offer a wide range of heating capacities from 7.5 to 87.0kW, the standard model coming in a robust Aluzinc housing with horizontally-adjustable directional louvres.

The standard model for hot water is the Tanner MDA air heater. This is provided with a heat exchanger of copper tubes expanded into aluminium fins, hard soldered onto copper manifolds and suitable for: max operating pressure 4-5 bar (leak tested to 7 bar); max inlet temperature 90°C. Galvanised-steel exchanger units (for steam or thermal oil) are available on request.

Contact: Maurice Byrne, Mark Eire. Tel: 01 - 668 0510; Michael Keane, Mark Eire. Tel: 026 - 45334.

Energy Awareness Week 1998

Over £4 million in additional consumer spending on energy-efficient products was generated during last year's Energy Awareness Week, according to David Taylor, Director, Irish Energy Centre. Speaking at a launch to business and trade partners, including the construction industry, of details of the 1998 Energy Awareness Week, Mr Taylor said that the Centre believed that a further 20% growth in consumer spending on energy-efficient products could be achieved during this year's Energy Awareness Week. This would result in a total annual energy saving well in excess of £2 million.

Among the many activities being organised nationwide is the Duncan Stewart Roadshow which this year brings the presenter of the Our House TV programme to five centres across the country. The roadshow is being organised in conjunction with AIB.

The focal point of Energy Awareness Week this year will be the first ever national Home Energy Show which is being held in the RDS, Ballsbridge in Dublin, from the 25 to 27 September. It will focus on the service elements of energy matters for the home in areas including insulation, heating systems, glazing, draught-stripping, construction, and building, and window restoration. A series of seminars for members of the public is also planned.

At the launch of Energy Awareness Week were (L/R) Brian Maguire and Bettina Frederiksen; J J Sampson & Son; Joe Jacob, TD, Minister of State at the Department of Public Enterprise; David Taylor, Director, Irish Energy Centre; and Joanne Geary, Marketing Executive, Irish Energy Centre.

https://arrow.dit.ie/bsn/vol37/iss8/1
DOI: 10.21427/D72707
ISH - 22/27 March '99
As the world’s leading trade fair for sanitation, heating and air-conditioning sector, the ISH, attracts by a large number of exhibitors and visitors from all over the world. In 1997, virtually one in two of the 2,200 exhibitors and one in five of the 220,000 visitors came from outside Germany. Altogether, 35 nations were represented on the exhibitor side and 129 on the visitor side. Even at the early stage ISH '99 looks set to surpass this record-breaking performance.

As in the past, a congress will be held in conjunction with each of the three main sectors represented at ISH 1999. On 24 March, the Air Conditioning Conference will focus on the re-use of old buildings with special reference to Leipzig Railway Station, on new multi-functional buildings with special reference to the 'Eurotheum', and on building modernisation with special reference to a hospital.

The Air Conditioning Conference will be flanked by two events for architects - the “Architecture Matinee” on 23 and 24 March. March 25 has been set aside for the Heating Conference which will review Germany's new Heat Protection Law and its orientation towards new heating technology.

Finally, on 26 March, the focus will be on water. The Sanitation Conference will discuss the main theses of the Delphi study on Europe’s future water supply.

The ISH will be rounded off by several special shows:
- The ‘Design Plus - Sanitation, Heating, Air Conditioning’ show will present prize-winning products distinguished by good design.
- The ‘Innovative Building Technology’ exhibition will take a thematic view of building modernisation.
- The special show organised by the Working Group of the German Tiled Stove Industry (Arbeitsgemeinschaft der deutschen Kachelofenwirtschaft - AdK) will examine the subject of heat supply and renewable sources of energy.

Duggan Acquires Tube Rollers
The Duggan Steel Group Ltd has acquired the business of Tube Rollers Ltd from Jones Group Plc. Tube Rollers Ltd is a precision steel tube manufacturing company based in Callan, Co Kilkenny, and is the only steel tube manufacturing company in Ireland.

Substantial synergies exist in the acquisition of this company by the Duggan Steel Group which has two other plants in Kilkenny and a substantial distribution network throughout Ireland. As a member of the Duggan Steel Group, Tube Rollers will concentrate on the development of its core activity and will have a significantly-reduced cost base. Employment at the plant is expected to increase by 50% over the next twelve months.

In 1998 the Group will have a turnover of £24 million, up from a quarter of that level five years ago. Export markets include Northern Ireland and mainland UK.

Contact: Francis L Duggan, Duggan Steel Group. Tel: 056 25050.

1800 Series Now with Cenelec-Approved Explosion-Proof Enclosure
Bob Gilbert of Manotherm has told BSNews that one of the most popular low-differential pressure switches on the market, the Dwyer 1800 Series, is now available with a Cenelec-approved explosion-proof housing per EExd IIB T6 for service worldwide.

The economically-priced Model 1824 is available in eight standard ranges, from 0.07 to 85 in. W.C., and meets most requirements for low differential pressure applications for air or compatible non-combustible process gases. These sturdy diaphragm-operated units also withstand surge pressures up to 25 psig.

The reliable SPDT snap switch is rated at 15 Amp, 120-480 V, 60 Hz AC (10 Amp at high cycle rate). 1/8 horsepower at 125 V, 60 Hz AC and 1/4 horsepower at 250 V, 6 Hz AC. Three screw-type terminals are provided for easy wiring.

Other time-proven 1800 Series models are available for indoor, weatherproof (NEMA-4) and explosion-proof (NEMA-7-9) service with UL CSA and/or FM approvals.

Contact: Bob Gilbert/Brian Harris, Manotherm. Tel: 01 - 452 2355.
Intelligent Buildings ... Realising the Benefits

Intelligent buildings ranging from offices, hotels and airports to hospitals, museums and homes are being designed and built world-wide. These leading-edge buildings incorporate the latest and best in systems, technology and design and deliver improved building performance.

Intelligent Buildings: Realising the Benefits is Europe's first international conference and exhibition on this subject. The organisers, the European Intelligent Building Group (EIBG), in partnership with the Building Research Establishment (BRE), are issuing a challenge to the audience of construction industry professionals, suppliers and property financiers/owners attending this conference.

"How can the lessons and diverse benefits from these buildings be transferred into mainstream construction, thereby overcoming the constraints of traditional building practice and creating a wide range of buildings which meet future requirements?"

Over the course of three days, leading international professionals, including Martyn Harrold, Director Ove Arup; Herbert Girardet, Cultural Ecologist, Broadcaster and Author; and Andrew Harrison, DEGW will address this challenge by exploring six main themes:

- Why intelligent buildings matter;
- Intelligent building systems, incorporating a review of established and emerging systems and technologies;
- Developments in the design and construction of intelligent housing;
- Identifying the barriers to progress and how to overcome them;
- Intelligent materials, structures and services;
- Reviewing future requirements for buildings and the implications for intelligent buildings.

Intelligent Buildings: Realising the Benefits will take place from 6 to 8 October 1998 at the Building Research Establishment, Watford, UK. Delegates will be able to choose their itinerary from an extensive conference programme.

Contact: EIBG at Tel: 0044 181 4006136; Fax: 0044 181 4006137.

WITH IRISH SIZE YOU'RE SMILING!

Why? Because with Yorkshire 'Irish Size' you have the most tried and tested lead-free integral solder ring fittings available on the market.

'Irish Size' is the specifically Irish version of the truly original Yorkshire fitting, which was developed way back in 1934, almost 50 years ahead of our nearest competition!

With such a pedigree, little wonder it's the number one integral solder ring fitting in the world today.

Simplicity itself to install, and giving neat and utterly reliable joints, every item in the Yorkshire 'Irish' range is covered by a no-quibble, 25 year product guarantee.

For further information, please contact:
Irish Metal Industries, Unit 25 Stillorgan Industrial Park, Blackrock, County Dublin.
Telephone 01 295 2344/01 295 2137. Facsimile: 01 295 2163.

IRISH METAL INDUSTRIES

YORKSHIRE - THE TRULY ORIGINAL INTEGRAL SOLDER RING FITTING

https://arrow.dit.ie/bsn/vol37/iss8/1
DOI: 10.21427/D72707
Creating Sustainable, Green Environments.
Innovation in Pumping Technology

Stainless Steel Vertical and Horizontal multistage pumps for water supply, boosting, sprinkling, irrigation, high pressure wash, fire protection and water treatment (De-mineralisation, Filtering).

- Water supply
- Boosting
- Sprinkling
- Irrigation
- High pressure wash
- Fire protection
- Water treatment
- Boiler Feed

WILO Engineering Ltd., Enterprise Centre
Childers Road, Limerick, Ireland
Telephone: 061-410963 Telefax: 061-414728
Creating Sustainable Green Environments

Since it was established in 1976 Finheat Ltd has provided a quality-driven package of products and support services. This fundamental philosophy has underpinned Finheat’s entire operational procedures over the years, and is very much in evidence in the latest plans announced by the company.

Growth at Finheat has always been “organic”, the introduction of new products and the development of additional product categories coming from the same core principal suppliers with whom the company has long-standing trading relationships.

It is against this background that Managing Director and principal shareholder Jim King has embarked on the latest expansionary phase. The objective is to consolidate and grow Finheat’s position in traditional market segments while, at the same time, broadening its base to take in new market segments.

To this end the core product portfolio has been enlarged, new strategic management structures have been devised, and key personnel have been appointed to implement them. This includes new director Pat Keane, who is also a director of Keane Environmental. Pat brings a wealth of experience to Finheat, having served the specifying sector with brand-leading products over a 25-year period.

“Pat Keane’s appointment”, says Jim King, “coupled with a number of other senior management appointments, demonstrates our commitment to ensuring a quality service. This team of highly-qualified and experienced personnel help clients tease out and identify their requirements, assist in problem-solving, and in devising and implementing solutions.

“To this end Finheat works very closely with the consultant, the client where appropriate, our suppliers, and the installer. It is truly a partnership effort and one which coordinates and utilises the vast resources this partnership represents.”

To guarantee a better understanding of clients’ problems and closer day-to-day working relationships, Finheat’s activities are divided into separate ‘divisions’. Essentially, these represent dedicated teams concentrating on specific market segments, though obviously with the facility to offer cross-over support.

Full details are contained overleaf.
IF YOU CAN’T STAND THE HEAT, USE THIS IN THE KITCHEN

Our standard Slim Cased & Plate Axial fans are rated at IP65 Class F to withstand temperatures of up to +70 °C.

CE marked, performance tested and available ex-stock. Perhaps that explains why more contractors than ever are turning to Vent-Axia to solve their ventilation problems.

Slim Cased & Plate Axial - just one of over 300 axial models in the Vent-Axia industrial range.
Finheat's Product Portfolio

Long-standing trading partnerships with quality manufacturers typifies the composition of the Finheat portfolio. While other companies broaden the diversity of their ranges by taking on new agencies, over the years Finheat has done so simply by taking in additional lines from its existing core suppliers. All have a wealth of research and product development behind them, and the resources to ensure a continuous supply of innovative products and systems solutions. Brief details of the suppliers who currently make up the product portfolio follow below.

Diffusion

More commonly known in Ireland for its door curtains, which are used extensively by such retail giants as Marks and Spencer and Dunnes Stores, Diffusion is also a specialist in the manufacture of fan coil units which has been supplying successfully for over 20 years to some of the largest developers in Europe. It was through this close contact with its clients that Diffusion developed a very special fan coil unit with Airside Control.

Anyone who is familiar with the problems associated with 4-port valves, which has been the more traditional control option for fan coil units, will realise the significance of their elimination from the system.

Airside control has effectively achieved this, while also offering closer and more reliable control. Such are the advantages of this form of control that, although Finheat only commenced marketing it less than two years ago, it has already been adopted by such prestigious names as IBM, Hewlett Packard, Merrion Hotel Apartments, Eircell House, and ACC.

Although in Ireland for less than two years, Airside Control was developed by Diffusion nearly 20 years ago for Land Securities who are arguably Europe's largest developers. Such was its success with Land Securities that they used it on a long list of prestigious developments, and continue to do so as its reputation for reliability and low maintenance is nothing short of remarkable.

Consulting Engineers have experienced an extra “hidden” advantage when using Diffusion on very large projects. These are prone to ongoing changes from initial design and the plus factor is that Airside Control fan coil units present minimal impact in terms of redesign when compared with a full air system.

Airside Control now has a long list of followers and has built up a large portfolio of reference projects such as Nat West Tower, The Savoy Hotel, Hilton Hotels, The Tara Hotel, Royal Bank of Scotland ... the list goes on.
**Conserver Systems**

**AN INTEGRATED FAMILY OF OPTIONS FOR COMMERCIAL AND DOMESTIC APPLICATION.**

**AIR TO WATER AND WATER TO WATER HEAT PUMP BASED COMPONENTS AND SYSTEMS.**

**GENIE**  
**RENEWABLE ENERGY SYSTEM**

**TAP THE EARTH'S ENERGY WHICH IS FREE AND IS CONSTANTLY RENEWED**

The Genie range of renewable energy systems for all domestic and commercial applications, will either heat, or heat/cool your environment at a fraction of the cost of conventional systems because it gets 75% of the energy free from 2 ft under the subsoil...

It is the most environmentally responsible application of energy on Earth, and is also the cheapest source of energy. May be used with either radiators, underfloor heating, or our new Conserver terminals.

Our Sigma system links all the key elements together including the Air-Exe air quality management system with full heat recovery.

**KINGFISHER**  
**A COMPLETE PACKAGED AND TRIED COMMERCIAL AIR CONDITIONING SYSTEM WHICH GETS RID OF 100% OF CFC's IN OCCUPIED SPACE.**

Entire system is intelligently linked to allow for fancoils, cassettes or Conserver terminals and up to 100kW capacity.

Simple installation and expandable.

This is the easiest system yet devised to install and maintain, and you are freed from the many limitations of DX systems. The growing objections to gas in occupied space make consideration of Kingfisher mandatory.

**Conserver Climate Control for Conservatories**

A revolutionary cost effective solution to conservatory climate control.

Totally water based, it offers low cost heating and cooling in an environmentally sound manner.

Typical installation time for a complete system in a new or existing conservatory is 2 hours. There is no other product in existence custom designed for the unique challenges presented in conservatories.

**Controlled Heating and Cooling with Style**

*An affordable alternative to radiators*

Super energy efficiency  
Lower running cost  
Fast acting and ultra compact  
Attractively styled  
Automatic temperature control  
No hot surfaces  
Air filtration if required  
Cooling if required

Typically 15% the size of a similarly rated radiator.

WE ALSO PRODUCE:

- Air to Air Heat Pump Systems
- Industrial Dehumidifiers
- 20kW Mobile Coolers
- Horticultural Climate Control

**Kental Systems Ltd**  
**Ashmount, Monkstown, Cork.**

**Phone:** 021-841802  
**Fax:** 021-841206  
**E-Mail:** kental@indigo.ie
Gilberts

While Gilberts make a vast range of quality grilles, their real strengths lie in the development of specialist diffusers that perform as they are designed to perform. Included are products such as floor and ceiling swirl diffusers that provide rapid entrainment of supply and room air at very short distances from the diffuser. This allows them to be used in the floor in a displacement mode, without any discomfort to the occupier, or at high level to introduce larger volumes through a reduced number of diffusers, again without creating any discomfort. Recognition in Ireland of the advantages of using Swirl Diffusers is growing rapidly which is evidenced by the large number of recent projects completed. These include Citibank; ACC New Headquarters; Customs House Plaza; Janssen Pharmaceuticals; and Trinity College. Gilberts’ external louvre supplies to Ireland has also grown from virtually nothing a few years ago to now including projects such as Dublin Airport; Hewlett Packard; and Woodchester Investments. Gilberts is one of the UK’s leading designers and manufacturers of grilles, diffusers, louvres and smoke/fire dampers for the heating, ventilating and air conditioning industry. In order to ensure that this policy is effectively implemented, a system of quality assurance is applied which conforms to BS EN ISO 9001: 1994.

LTI

The LTI range of fans is the result of long experience in the development and manufacturing of ventilation systems. The partnership between highly-motivated LTI employees and world-renowned component suppliers guarantees quality products on the highest technical level and precise reliability.

Principal benefits of using LTI products include:
- Ease of installation
- Impellars and casing made of galvanised steel
- Motors which can be speed-controlled by transformer or electronically
- Motor protection through thermal contacts
- Ease of electrical installation
- Quality, reliable performance

The extent of the range covers a vast number of applications and includes air handling units; tube fans; duct fans; roof fans; whisper fans; axial fans; centrifugal fans; kitchen exhaust units; and controllers.
**Volume Control Dampers**

As part of the continuing development of its business, Finheat has now commenced a manufacturing arm, beginning with a range of Gilbert volume control dampers (VCDs) which are produced under licence at its Cherry Orchard headquarters.

This range of VCDs was specifically designed to provide positive control within ducted air systems, and is manufactured to exacting quality-control procedures.

Available in both spigotted and flanged connections, all models within the range are compatible with square, rectangular, circular and flat oval ductwork.

Main features include:
- Unique blade link mechanism
- Aerofoil blade section
- 35mm flanges with tapered corner holes to suit most accessories
- Blade position indicator
- Precision extruded frame and blade sections
- Various control modes

**Vent-Axia**

In the domestic sector, Vent-Axia leads the market with LoWatt motor technology, which delivers fully-effective ventilation for kitchens, bathrooms and utility rooms, yet uses only 70% as much electricity as conventional domestic fans. A further contribution to energy conservation is delivered by the Vent-Axia range of Heat Recovery Ventilation units, which can cut heating costs by as much as 70% by capturing and recycling valuable warmth in wintertime, while maintaining an ideal indoor atmosphere. Directly complementing this energy efficiency, Vent-Axia has also created the market for Safety Extra Low Voltage (SELV) fans - 12 Volt DC units specially designed for super-safe ventilation of bathrooms and showers.

In commercial buildings such as pubs and clubs, the Vent-Axia T-Series range of extract/intake fans and Standard Range units are established classics. Here again, Vent-Axia leads ... this time in "Wireless" radio control. By using digital radio signally, "Wireless" control eliminates the need for costly or unsightly cable runs.

Industrial applications are served with a comprehensive selection of plate and cased axial fans, roof fans and high volume air handling units. As with the domestic and commercial products, there is an integrated range of ductwork and ductwork accessories.

Developed for quiet efficiency, Vent-Axia products are all performance-proven in the company's own independently-accredited laboratories - airflow, pressure development and sound characteristics are all accurately determined in accordance with internationally-recognised standards. Vent-Axia electrical safety is certificated worldwide – and quality too. Every Vent-Axia product is manufactured in line with the strict demands of international quality standard ISO 9001.

The imposing entrance of the Merrion Hotel which is situated directly opposite the Dáil.
Architects: Burke-Kennedy Doyle;
Consulting Engineers: Varming Mulcahy Reilly & Associates;
Mechanical Contractors: Patric Engineering.
Senior Hargreaves

As stockists of the whole line of ductshop products from Senior Hargreaves, Finheat can meet every need. The comprehensive range covers spiral and flat oval ductwork, prefabricated bends, tees, and transformers, all of which conform to the new DW144 ductwork specification.

Finheat also supplies a complete line of ancillary products. These include grilles and diffusers, fans, dampers, flexibles, flashing, fixing kits and access doors. The friendly counter staff can help visitors select the best product for the job in hand.

Senior Hargreaves HFD fire engineering ductwork is also available through Finheat on a supply-and-fit basis. This comprehensive range of ductwork includes special constructions for smoke ventilation, kitchen extract, pressurisation, cable protection and other specialised applications.

All constructions and their fittings are fully fire tested in accordance with BS476 to conform to requirements for stability, integrity and insulation.

Advice is available from Senior Hargreaves engineers through Finheat on the use of HFD products for any project. Additionally, the company offer a free seminar, enabling engineers to update their knowledge in this important area. These seminars qualify towards CPD and can be tailored to suit particular client requirements.
CREATING SUSTAINABLE GREEN ENVIRONMENTS

Wilo Engineering

Wilo Engineering Ltd is the Irish sales subsidiary of the Wilo-Salmson AG Group of pump companies. The Group, which is German owned, has an annual turnover of £300 million; sells into every continent in the world; has six manufacturing plants – one in Ireland – and 24 foreign distribution subsidiaries.

Ireland is a vital cog in the group's structure, a position strengthened year on year on the back of its performance in respect of sales and manufacturing output. There are two Irish Group Companies – Wilo Engineering Ltd which looks after sales in Ireland, and Wilo Pumps Ltd, which is a manufacturing company.

Right from when the company was first established 126 years ago, Wilo has been synonymous with innovative, quality-driven products. That fundamental philosophy still underpins the entire operation.

Wilo has traditionally been associated with circulating pumps for central heating and chilled water applications. In more recent years the company has introduced a comprehensive range of stainless steel pumps for cold water and sanitary services. A new and innovative range of sewage pumps has also been developed. This enlargement of the overall range of products, together with constant and innovative upgrading of design, means Wilo will still be at the forefront of building services pump technology into the new century.

Kental Systems

Kental Systems offers a unique integrated family of options for conserving energy, space, and the environment in commercial and domestic applications.

Very much to the fore is Kingfisher, a complete packaged and proven commercial air conditioning system which gets rid of 100% of CFC's in occupied space. The entire system is intelligently linked to allow for fan coils, cassettes or conserver terminals, and up to 100kW capacity. This is the easiest system yet devised to install and maintain, particularly as it has none of the many limitations associated with DX systems. Indeed, the growing concern about gas in occupied space make consideration of Kingfisher essential.

Among the other innovative ranges in Kental Systems' portfolio are the Genie range of renewable energy systems for domestic and commercial applications which will heat or heat/cool at a fraction of the cost of conventional systems; Conserver climate control for conservatories – this water-based unit offers low-cost heating and cooling in an environmentally-sound manner.

Kental Systems also produce air to air heat pump systems; industrial dehumidifiers; 20kw mobile coolers; and horticultural climate control.
The Big Chill?

Warm up! ... With Diffusion Heating

Diffusion Environmental Systems offer a wide variety of heating products including:

- The Savanna, Oasis and Mirage ranges of high-capacity, overdoor, air curtains
- TR, Transome and CT ceiling tile heaters
- FCH and Slimvector fan convectors

Just Add Water!

Diffusion Fan Coil Units

For all your heating and cooling needs contact our sales team at:

47 Central Avenue, West Molesey, Surrey KT8 2QZ
Tel: 0044 181 783 0033; Fax: 0044 181 783 0140;
Email: sales@bensonenv.co.uk Website: www.bensonenv.co.uk/benweb/
Using a new dimension in Air Distribution Technology, Gilberts have, in recent years, developed an extensive range of High Induction Swirl Diffusers for floor and ceiling applications. The full Swirl Series now includes:

Series GFS - Floor Swirl Diffuser  
Series GSJ - Ceiling Adjustable Swirl Diffuser  
Series GSF - Ceiling Fixed Swirl Diffuser  
Series GZL - High Induction Linear Diffuser

Uniquely styled and of contemporary design, these modern Swirl Units provide a wealth of attractive features:

- Omnidirectional Swirl Discharge  
- High Induction Effect  
- Perforated Square or Circular Open Face Designs  
- Horizontal or Vertical Distribution  
- High Air Change Rates  
- Manual, Automatic or Temperature Dependent Adjustment (GSJ only)

(PATENTS ON A NUMBER OF FEATURES)

New for 1998 is the latest GZL Zipp-Air Series Design. Swirl Diffusers form part of Gilberts Air Distribution, Smoke and Fire Control Products series of...

- GRILLES  
- DIFFUSERS  
- EXTERNAL & ARCHITECTURAL LOUVRES  
- SMOKE/FIRE DAMPERS  
- VAV TERMINALS

For sales & enquiries:
Gilberts (Blackpool) Limited  
Head Office and Works  
Clifton Road, Blackpool  
Lancashire FY4 40T  
tel 01253 766911  
fax 01253 767941

Building Services News, Vol. 37, Iss. 8 [1998], Art. 1  
https://arrow.dit.ie/bsn/vol37/iss8/1  
DOI: 10.21427/D72707
SystemLink – Heat where you want it when you want it

If you are interested in solving zoned heating system installation and maintenance problems in a simple, cost-effective efficient way, read on!

Ever since the advent of automatically-regulated central heating systems, cost has virtually been the only measure by which the developer or home-owner has selected a heating system.

However, a number of factors have emerged in the past few years which emphasise the need for customers to be more discriminating in choice of fuel, choice of system and choice of installer.

If their investment in comfort and economy is to be worthwhile, factors to be considered include: material quality; workmanship; guarantees; increase in fuel costs; and, more recently, energy efficiency and environmental protection.

Manufacturers have spotted that boilers, radiators and control equipment, like kitchens and bathrooms, are now rated highly as quality yardsticks, both in new and refurbished homes.

Here, European manufacturers expanding into the Irish market have undoubtedly influenced trends, as has the vast increase in travel by Irish holiday-makers abroad.

Along with this increased consumer demand for more effective systems came the need for installers to improve their technical knowledge and installation skills. Provisions of the new Building Regulations, which came into effect on 1 July 1998, require that heating and hot water temperature controls are now to be fitted as standard in all new dwellings. This, plus an additional bedroom circuit, is compulsory when the new dwelling is in excess of 100 sq m. This has meant that now plumbers are expected to have a reasonable understanding of the electrical skills required for heating system installation, and vice versa with electricians.

Unfortunately, this is where it all stops. Historically, plumbers and electricians have tended not to communicate their ideas that well with regard to the purpose and operation of even the most basic control equipment.

The complexity of control equipment has further exasperated the situation.

Motorised valves are a key component in most conventional zoning systems, but if they do not seal correctly, radiators will stay on, when heat is not required. Apart from the discomfort factor, this results in an unnecessary waste of energy.

System Link – Heat where you want it when you want it

If you are interested in solving zoned heating system installation and maintenance problems in a simple, cost-effective efficient way, read on!

Ever since the advent of automatically-regulated central heating systems, cost has virtually been the only measure by which the developer or home-owner has selected a heating system.

However, a number of factors have emerged in the past few years which emphasise the need for customers to be more discriminating in choice of fuel, choice of system and choice of installer.

If their investment in comfort and economy is to be worthwhile, factors to be considered include: material quality; workmanship; guarantees; increase in fuel costs; and, more recently, energy efficiency and environmental protection.

Manufacturers have spotted that boilers, radiators and control equipment, like kitchens and bathrooms, are now rated highly as quality yardsticks, both in new and refurbished homes.

Here, European manufacturers expanding into the Irish market have undoubtedly influenced trends, as has the vast increase in travel by Irish holiday-makers abroad.

Along with this increased consumer demand for more effective systems came the need for installers to improve their technical knowledge and installation skills. Provisions of the new Building Regulations, which came into effect on 1 July 1998, require that heating and hot water temperature controls are now to be fitted as standard in all new dwellings. This, plus an additional bedroom circuit, is compulsory when the new dwelling is in excess of 100 sq m. This has meant that now plumbers are expected to have a reasonable understanding of the electrical skills required for heating system installation, and vice versa with electricians.

Unfortunately, this is where it all stops. Historically, plumbers and electricians have tended not to communicate their ideas that well with regard to the purpose and operation of even the most basic control equipment.

The complexity of control equipment has further exasperated the situation.

Motorised valves are a key component in most conventional zoning systems, but if they do not seal correctly, radiators will stay on, when heat is not required. Apart from the discomfort factor, this results in an unnecessary waste of energy.
Added to this, if a valve jams, installers will be faced with profit-wasting call-backs, complex fault-finding procedures, and then perhaps be required to carry out a full system drain to effect a solution.

Now a product has emerged that has effectively resolved all of the previous complexities and technical installation dilemmas. SystemLink is a control solution that has been designed, patented and developed in Ireland, which uses independent pumps instead of valves to circulate water to each zone. Any zone not in use is isolated by an extremely effective neutralising procedure within the units’ water section. This is achieved without moving parts to block the water flow. The SystemLink principle is intrinsically safe and easy to install, and provides a cost-effective solution to a large variety of applications, from the basic simple zoning arrangements to comprehensive multi-boiler, multi-zone plans.

The SystemLink unit comes in two standard sizes with either three or four independently-controllable zones available. They would typically be used for domestic or light commercial applications, but larger units are also available by special order to suit bigger commercial or industrial installations.

The unit comes complete with the water distribution manifold; zone distribution pumps; an automatic air vent safety valve; and a remarkably simple, yet comprehensive, wiring printed circuit board that completely reduces the amount of both installation knowledge and time required to complete a highly-effective installation.

In answer to the question “Is SystemLink simply described as a comparison product to the old-fashioned idea of motorised valves?” the answer is an emphatic “No”. The reason is that all the crucial factors to establish a safe effective ‘good’ system are contained within the unit’s structure. Elements like de-aeration, pump location, full system by-pass and a perfectly-created neutral point. Therefore, SystemLink is more aptly described as “Everything that should be done is done to consistently create perfect heating installations”.

What other product can claim to have a 100% track record of system performance and customer satisfaction? SystemLink can!

SystemLink was initially introduced as a zoning medium, where a heating boiler’s output was pumped into the unit’s central water manifold, and then by the controlled selection of pumps the heated water was split into multiple zoned outputs. Further development provided for dual boiler attachment at the left and right hand side connections. This meant that the unit could now be used for inter-connection systems, making the SystemLink easy to install in an intrinsically-safe way by providing permanently-open pathways to an expansion vent for all zones and boilers in the heating circuit.

It also allowed for a fail-safe solution, should a circulation pump (the only moving part) ever fail. In this event, dangerous pressures are not created and the pump can be replaced without draining the system. The introduction of the unit’s central control printed circuit board added the same type of versatility to the electrical installation.

The opportunity was now created for simple attachment to a wide variety of zoning options, irrespective of what size building, type of boilers or quantity of distribution zones.

Since then the legacy of successful installations has grown by the day, with a seemingly endless variety of schemes completed with a sometimes astonishingly-simple procedure. Installations range from single boilers connected to three or four zone plans, to multiple banks of boilers having their heated outputs collected in a given SystemLink, and then that unit transmitting the heat onwards to remotely-located SystemLinks, thus enabling further zone distribution.

Installers can now achieve faster, more comprehensive and completely reliable installations, allowing them to keep their profits and enhance their reputations. Customers benefit of course, not only by their energy savings, but also in their heating demand. Finally, boiler manufacturers are sharing in the benefits by finding that their products are operating in completely trouble-free systems, that more often than not, exceed even their own highest expectations.

Companies like Vokera gas boilers – whose largest appliance is only around 100,000 Btu’s – are now regularly providing banks of boilers to large commercial applications.

Another type of installation was where groups of Firebird oil boilers have been installed to provide zoned heating and prioritised domestic hot water generation in hotel/guest-house schemes.
East Meets West

The Heat Pump Association recently played host to delegates from the Heat Pump Technology Centre of Japan who were visiting Europe with leading Japanese manufacturers on a fact-finding mission. Also present were representatives of FETA and invited specialists including consultants, contractors, manufacturers and academics.

The meeting took place at the FETA headquarters in Medmenham, Buckinghamshire. The main purpose of the meeting was to debate the current situation relating to refrigerants and to share experiences in the development and commercial use of natural working fluids.

A wide-ranging agenda focussed on heat pumps and chillers using hydrocarbon refrigerants, and featured discussions on ammonia and carbon dioxide and their application in refrigeration and heat pump systems.

Japan has a well-established domestic air conditioning market which accounts for 7 to 8 million units per annum, with 95% of these being heat pumps. A further 800,000 packaged units, mainly wall-mounted split systems, find their way into the Japanese market annually, with 85% of these featuring reverse-cycle heat pumps. The most popular refrigerants in domestic and packaged units are JFC R410a and JFC R407c.

In Japan, the use of hydrocarbons is currently restricted to industrial installations as manufacturers are reluctant to be subjected to product liability claims until further research and development has been undertaken into commercial and domestic systems.

It was reported that carbon dioxide is used as a secondary refrigerant at high pressures in Norway but is not used in Japan other than as a test refrigerant in vehicle air conditioning.

Japan has a well-established domestic air conditioning market which accounts for 7 to 8 million units per annum, with 95% of these being heat pumps. A further 800,000 packaged units, mainly wall-mounted split systems, find their way into the Japanese market annually, with 85% of these featuring reverse-cycle heat pumps. The most popular refrigerants in domestic and packaged units are JFC R410a and JFC R407c.

In Japan, the use of hydrocarbons is currently restricted to industrial installations as manufacturers are reluctant to be subjected to product liability claims until further research and development has been undertaken into commercial and domestic systems.

It was reported that carbon dioxide is used as a secondary refrigerant at high pressures in Norway but is not used in Japan other than as a test refrigerant in vehicle air conditioning.

The meeting concluded with a discussion on the likely phase-out dates for both JCFCs and JFCs in view of their global warming potential. The need for replacements was highlighted while other sources of carbon dioxide emissions were briefly discussed.

Jimmy Bittles, OBE, of EUCRAR reported that the EU favoured hydrocarbons because the emissions from HCFCs and HFCs were unacceptably-high from a global warming perspective. He added that EUCRAR recognises the need for further research into flammability and safety standards.

HPA President Gilbert Burlison thanked all the delegates for attending and giving their opinions on a wide range of topics, and gave special thanks to the HPTCJ delegates for their contribution to an interesting interchange of ideas.
**Flues for Condensing Boilers**

Although sales of condensing boilers are still relatively small, environmental considerations suggest that this type of appliance will eventually provide a significant percentage of boiler installations in the future, writes Karl Carrick, Operations and Services Manager, Hevac. Flue gas emissions from boilers are a major source of the Greenhouse gases CO2 and NOx and, since today’s condensing boilers can achieve up to 96% thermal efficiency, their environmental credentials are clear. However, greener boilers need appropriate flueing to operate efficiently and avoid extra maintenance costs through incorrect specification or installation.

When a condensing boiler is in condensing mode, the flue gases are cooled to below their dewpoint on a heat exchanger and the resulting latent heat is transferred to the system water. Unfortunately, not all the water vapour produced by combustion is condensed within the boiler and a proportion is carried through the flue before dispersal into the atmosphere. Condensate will often form within the chimney ... how much is dependent on the chimney's structure and location. This condensate can be acidic to varying degrees.

A condensate trap fitted at the bottom of a vertical flue run, usually under a “tee” section, will allow much of the condensate to drain safely away through the normal domestic drainage. Since soapy water from the kitchen sink, etc is alkaline, it effectively neutralises the acid condensate. Additionally, if appropriate and depending on the nature of the fuel, a special neutralising box can be fitted between the condensate trap and the drain.

External drainage of any condensate represents a freezing hazard during cold weather and suitable precautions should always be taken to avoid this happening.

Combustion in a boiler is a complicated cocktail of chemical reactions. The central reaction involves hydrocarbon fuels such as natural gas or LPG being oxidised in air at the burner to form carbon dioxide (CO2) and water vapour with the release of heat. To reduce the formation of poisonous carbon monoxide caused through the incomplete oxidation of the fuel, burners are normally set up with an excess air arrangement. Using this arrangement tends to increase the amount of nitrogen from the combustion air that will be oxidised at the burner to form nitrogen oxides (NOx). CO2 and NOx readily combine with the water vapour in the flue gas to become an acidic condensate.

With oil-burning boilers, whether condensing or high efficiency conventional, flueing is even more critical since kerosene contains low levels of sulphur which produces sulphur dioxide gas when oxidised, leading to sulphurous acid when dissolved in water.

---

**Selkirk Supra chimney system designed to use with condensing boilers**

Condensing boilers are still viewed by some as expensive compared to conventional boilers with the payback period on fuel saving, particularly for well-insulated homes, too long to provide a serious encouragement.
Prefabricated chimneys and flues used with condensing boilers must be more resistant to corrosion than, for example, a standard gas vent with aluminium inner lining. When fitted to a conventional boiler the gas vent might be expected to last for at least the lifetime of the appliance (and usually a great deal longer), but the same gas vent would not normally be suitable for use with a boiler where condensation is present for extended periods.

The main selling point of a condensing boiler is its fuel efficiency and consequently low running costs, but the use of an inappropriate flue could well cancel out any fuel savings if the householder had to replace the flue earlier than would otherwise be required.

What makes a flue suitable for use with condensing boilers? The most important quality is corrosion resistance and this dictates the type of material the prefabricated flue is made from. There are three commonly-used chimney materials designed to resist acid attack - stainless steel, plastic and ceramic.

Engineering-grade ceramic material is highly resistant to acid attack but is mainly used in conjunction with solid fuel and wood-burning appliances which require a chimney able to withstand very high temperature flue gases, as well as acid condensates. Also, the ceramic material has a relatively low tensile strength compared to plastic or steel and therefore a little more care is needed during installation.

Plastic vents have some advantages, not least their low cost, but for all 'round strength and durability high grade stainless steel is hard to match. Selkirk’s recently-launched Supra system, for example, utilises 316 S11 grade stainless steel which has significantly-higher corrosion resistance than the standard 304 grade. Jointing is by a simple spigot and socket with a locking bank. A gasket is available for appliances requiring pressure tightness.

Condensing boilers are still viewed by some as expensive compared to conventional boilers with the payback period on fuel saving, particularly for well-insulated homes, too long to provide a serious encouragement. Once this perception is overcome, sales of condensing boilers will expand, making it even more important for installers and specifiers to be familiar with the necessary flueing arrangements. If in doubt, it always pays to consult the flue manufactures.
Refrigerants and Air Conditioning – The Current Climate

A phases introduction of Mitsubishi Electric City Multi and P Series products has obviously begun and these new products will be optimised for, and introduced with R407C. During the phase-in period both R407C and R22 products will be produced to ensure continuity of supply. Introduction of the M Series RAC units, which will run on R410A, will begin in early 1999 and be completed by December 1999, when it will mirror the existing 22-base unit R22 range.

On the larger units, once the alternative R407C range is complete, a number of new City Multi products will be launched. These are likely to include a larger City Multi Y Series system, a new water cooled unit, and a complete new range which bridges the gap between City Multi and Mr Slim products.

New refrigerant selection

The new refrigerants were selected following a number of years of focused chemical, mechanical and thermodynamic R&D and 12 months field testing and remote monitoring which was completed in December last year. Under the testing programme, 150 P Series units were re-engineered and tested by Mitsubishi Electric’s Livingston factory, Scotland, with City Multi and M Series units being optimised and tested in Japan.

"The quality of product, service, and technical support offered by Mitsubishi Electric and our Air Conditioning Dealer Network has enabled Mitsubishi Electric to become a leader in the Irish Air Conditioning market.

"That quality takes many forms. From developing specific products that meet particular market needs to the total quality we aim for, from production through to after-sales service. We strive to offer our customers the very best of quality in everything we do”, says Fergus Madigan, President Mitsubishi Electric Ireland and Director, Mitsubishi Europe.

Mitsubishi Electric’s Livingston factory, Scotland, with City Multi and M Series units being optimised and tested in Japan.

Re-engineered for reliability

Re-engineering the complete product range for new refrigerant has been a major undertaking. For example, in the case of the City Multi range, modifications have included using heat transfer promoting pipes in the heat exchanger and adding a unique ‘composition sensing’ (CS) circuit. Using a number of complex control algorithms the CS circuit accurately adjusts the speed of the compressor and controls the system’s performance to precisely match the composition of the hybrid refrigerant.

This has made Y Series outdoor City Multi units at least as good as the current R22 model, and the highest performing alternative refrigerant unit on the market.

Mitsubishi Electric is one of the few manufacturers to use the new refrigerants as an opportunity to further develop its air conditioning product portfolio. In doing so it has improved combined COP’s to provide more reliable and efficient systems.
Mike Sheehan, Manager, Mitsubishi Electric Air Conditioning Division

Best of the best
It’s no secret that the rapid introduction of alternative refrigerants such as R407C and R410A is the result of pending environmental legislation – in the shape of the Montreal protocol – to phase out ozone depleting substances such as CFC’s and HCFC’s.

Mitsubishi Electric has carefully addressed the whole environmental issue and, on the world stage, this approach has been recognised with the coveted ‘Best of the Best’ award last year by the American Environmental Protection Agency for outstanding contributions to protecting the global environment.

This is the second time Mitsubishi Electric has received the award. The first was in 1994 for its contribution towards the global phase out of ozone depleting substances and in particular for developing the world’s first rotary compressor that uses HFC-134a.

The Livingston air conditioning factory has also been commended for its commitment to environmental protection and, as part of the company’s continued belief in environmental protection, Mitsubishi Electric will be one of the first global corporations to introduce the Environmental Management Standard (ISO 14001) to all its global operations by the year 2000.

Conclusion
Mitsubishi Electric’s fundamental environmental achievements and beliefs are now being illustrated by the refrigerants used in the company’s air conditioners, where it is meeting engineering excellence and global manufacturing efficiency. The result is a world class range of products.

City Multi VRF
The new City Multi Y-series units were introduced in June this year. The expanded model range has been designed to have improved combined COP’s, be lighter, quieter, and have even smaller refrigerant charges.

These Y-series units are now available ex-stock in R407C optimised versions. The R2 versions are scheduled to come on stream later this year.

Mr Slim P-Series
This best selling range will be improved and developed even further with new models continuously coming on stream throughout 1998. In particular, the ducted range will be enhanced with outdoor units having reduced sound pressure levels of 6dB. Optimised R407C versions of these models will continue to be phased in throughout late 1998 and early 1999.

Mr Slim M-Series
Although rapid introduction of R407C refrigerant models in this range would be possible, Mitsubishi has opted for dramatic re-engineering and will begin introducing R410A models from early 1999. This will significantly improve the M Series COP’s and make them extremely compact units. Much of this range will become inverter driven as standard for further improved efficiencies.
Danfoss A/S - the leading Danish manufacturer of automatic controls for refrigeration, air conditioning components, heating and energy management systems, industrial process controls and mobile hydraulic equipment – has acquired its long-time agent and distributor in Ireland, J J Sampson & Son Ltd.

The acquisition is seen as a natural extension of existing agreements between the two companies which date back over 47 years as trading partners. Danfoss will continue to utilise the existing local, well-established market position of J J Sampson & Son as a basis of further growth and expansion of the various Danfoss product-lines throughout Ireland. The management team remains the same, all the staff are being retained, while there will be no change in day-to-day operational procedures.

J J Sampson & Son was established in 1920 by the late Jack Sampson, as a precision engineering, manufacturing and supply company. In 1951 he, and the late Mads Clausen, founder of Danfoss, entered into the sole agency and distribution agreement for Ireland. Today, three generations of the Sampson family later, the close and exceptional cooperation maintained between the two companies over the years has lead to this amicable acquisition.

J J Sampson & Son has a staff of 21 employees and has, only recently, moved into new purpose-built facilities at Nangor Road Business Park. Located on the western side of Dublin, it is ideally placed in close proximity to the main artery roads to and from the city for improved and easier access, ensuring optimised logistics to all customers throughout Ireland.

In addition, the offices, storage, training rooms and Service Centre facilities are designed to reflect the modern aspects of Danfoss Automatic Controls business. They are specifically tailored to support the many new Danfoss product solutions offered and supplied throughout the Irish market.

Technical support and service for the various product ranges is focused through the Sales Divisions which include Refrigeration and Air Conditioning; Heating Components; HVAC Projects; and Industrial Process Controls.

John Sampson, Managing Director said: "With 78 years of family business as J J Sampson & Son, the acquisition by our main suppliers, Danfoss, is a milestone for the shareholders and directors. While it marks the end to one era of family business in Ireland, it also offers many opportunities for the local organisation in its new position as a subsidiary within Danfoss, and a sense of being part of a bigger family, worldwide.

As an agent for so many years, J J Sampson & Son has become synonymous with the various Danfoss product brands within the Irish market, while the new company format will tap into a direct manufacturer's support line for Irish customers".

For Danfoss, the future, utilising their new organisation base in Ireland, is seen as a positive step to ensure and maintain long-term business in the market. "The acquisition by Danfoss of J J Sampson & Son is a natural extension of the long cooperation between our two companies", says Gerhard Strauss, President, Danfoss Ltd, UK. "It allows us extend our direct customer relationships through our new subsidiary organisation. This investment highlights the long-term commitment of Danfoss to our customers in the Irish market, while maintaining the continuity and success established previously through our business partners. With such strong economic conditions persisting in Ireland at present, we look forward to the continued sales growth and success of Danfoss in Ireland, furthering our market position through focused activities of our extensive product ranges towards building services, water treatment, food and dairy process, and chemical/pharmaceutical industries".

The Danfoss Organisation

Danfoss is a family-owned, global company, with a turnover in 1997 in excess of US$2 Billion. Employing over 18,000 people worldwide, the organisation consists of 36 manufacturing companies in 14 countries; 67 direct sales subsidiaries; and 82 agents and distributors in 80 countries. The head quarters is located in the southern part of Denmark, set in farmland near the town of Nordborg.

Its extensive product lines include refrigeration controls and equipment for domestic, commercial and industrial applications; mobile hydraulics for machinery industries; heating and room comfort controls for the building services industry; and a full range of industrial instrumentation controls for a variety of process industry.
It doesn’t stop there. At Armstrong we believe in total customer commitment. This is reflected in our free full technical support and advice from initial specification through to installation. Training is also an important part of the total Armstrong package. Our programmes are aimed at helping to reduce installation costs and increase both performance and longevity of the product when in use.

In essence, when looking for the optimum in flexibility and performance specify and install Armstrong with confidence.

Armstrong ...The Advantage.
Inside the Bestobell Steam Trap

MANOTHERM LIMITED
THE CONTROL CENTRES

Manotherm Limited –
The Control Centre,
4 Walkinstown Road, Dublin 12.
Tel: 01 - 452 2355;
Fax: 01 - 451 6919