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*BSN*News

MECHANICAL & ELECTRICAL BUILDING SERVICES

JUNE 2003

CHIMNEYS & FLUES

ABC

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28-PAGE PROFILE

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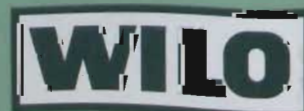
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Readership Data

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

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

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

First Fix ... Second Fix ... No Fix!

While no one should stand in the way of progress and the introduction of new, more cost-effective and efficient installation methods, the industry cannot stand idly by while plumbing is being so blatantly down-graded. Sub-contracting within the construction sector — and especially between the main contractor and specialist sub-suppliers in the mechanical sector — is a proven method of operation.

However, today that process seems to have run amok. Sub-contractors are in turn subbing out the work to others, who in turn are subbing it out again. Consequently, one operator is doing the so-called first fix, with another doing the second, and so on. The net result is no liaison and very little, if any, quality control. When it comes to the final fix the contractor at the end of the line finds it's a case of no fix unless he first rectifies all the mistakes of the previous so-called fixes.

It's time the industry had a hard look at itself. In recent years cowboys had, thankfully, become something of an endangered species. However, they are now being encouraged to rampage once again across the vast plumbing range, thanks to a pricing structure which bears no relation to genuine value-for-money. Cowboys belong in history books, old movies and comics, not today's economy.

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Snow Makes You Cold & Warms You!



Ancient energy-saving technique — an igloo protects those inside from the cold

Huskies demonstrate a very simple yet efficient heating principle, according to the bionics studies being conducted by Wilo. During blizzards, they simply lie down and let themselves be covered with snow. The cavity thus created underneath the snow is heated by the warmth given off by the animal's body, which can create a temperature difference of up to 20 degrees with the icy outside world.

Similarly, the igloo functions on the same

principle. The heating requirement is reduced to a minimum, because the living area is heated by the body warmth of those inside. A simple oil lamp is enough to provide the additional warmth required. If this extremely efficient heating method had not been discovered, the settlement of the arctic regions would have been completely impossible.

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

Applicants Flood Plumbing Courses

So ran the editorial heading in a news report in *The Times* (in England) on 16 May last. The story was all about literally thousands of people queuing overnight for a chance to enter one of Britain's most sought-after professions ... plumbing! Apparently, potential earnings are as high as €95,000 though this is discounted by some industry sources.

However, whatever the accuracy of these figures, the general perception is that everybody wants in. The City of Bristol College recently advertised a part-time course in plumbing that could accommodate 36

students. Just over 2000 people applied, 50 of whom were in the queue by 9am on the morning of registration, with four of them having camped out overnight.

Barking College in Essex had a similar response to the open day it held for its plumbing course. There were 78 places on offer and, once again, just over 2000 people turned up to register.

The plumbing sector here in Ireland — and the building services-related trades in general — needs to create a similar buzz if it is to attract high-calibre apprentices.

Industrial & Process Instrumentation

Industrial and process instrumentation is the focus of the new Mercoid Catalogue just released by Manotherm Ltd.

It includes over 150 pages of products, many with hermetically-sealed switches and explosion-proof housings for hazardous locations. New products in the range include pump controllers, submersible level

transmitters, flow switches and an expanded valve section.

Products for pressure, flow, level, temperature and valve applications for the petrochemical, utility, boiler and other industrial markets are included in the expansive range.

Model charts are comprehensive and thorough, allowing the user to customise

products to suit specific applications.

The catalogue also includes technical and application information making it a vital ingredient for engineers and designers.

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



Copies of the new Mercoid industrial and process instrumentation catalogue are available from Manotherm



Providing The Total Service Solution

Trane Ireland Limited

F7 CentrePoint Business Park
Oak Road, Dublin 12
Tel: 01 460 6030 Fax: 01 460 6039

20 Adelaide Street
Belfast. BT2 8GB
Tel: 02 890 517027 Fax: 02 890 517001

'Look Netizen — Don't Blink & Miss This!'

Ever wondered why you'd want to hook your building up to the "net"? What benefits can this give to the "netizens" inhabiting your offices? Who in these times can ignore the value of the internet to business? Whether this is simply as a communication medium for e-mail, a showcase for company activities, a research facility allowing access to every corner of the globe, or a localised company Intranet for easy sharing of information between company employees.

"Why not use this same, familiar technology to allow building occupants to interact with their environment via the Building Automation System?", asks Stuart Aynsley, Marketing Director, Cylon Controls Ltd.

"Think of it... no knobs and switches to fiddle with, but an intuitive graphical interface through any web browser that anyone can understand, Think further: Software created by anyone familiar with

web page authorising; Active desktop components for a readily-accessible interface; Link many kinds of media — pictures, sound, video, office documents; Building control as an integral part of your LAN or company Intranet; Access on the move from laptop or PDA with wireless networking; Remote access from any ISP connection or Internet Cafe.

"The possibilities for a creative mind are almost endless as new uses for net technology appear", concludes Stuart.

Always at the fore of creative thinking, Cylon Controls have now introduced the Unitron WebLink interface for all Unitron Building Automation Systems. Not a replacement for the full-featured Unitron WN3000 supervisory software, its simple features will still satisfy many responsible for the smooth running of their facility, while also allowing wider interaction with systems across a wide spectrum of building occupants.

It provides occupants with simple interaction with their environment for each office, kiosk style touch-screens for general areas and plant details, logged data or alarm management for a facility manager, WebLink is both simple and powerful. Applications range widely, yet these features can all be provided by a single cost-effective Microsoft Windows™ based PC software package with carefully thought-out application.

Worried about security? As a stand-alone web server, the security techniques that can be applied to the internet can also become part of a WebLink installation. User passwords allow access to only the parts of the system suitable for each user. For greater security, restrict the WebLink to in-house Intranet application on your Ethernet TCP/IP LAN, or for remote accessibility, publish WebLink via your own web site, the decision is yours.

Contact: Cylon Controls at www.cylon-controls.com.

'The Job Index' Points to Construction Growth

Almost 17% of all jobs advertised between March 2002 and April 2003 were in the construction sector, according to Bank of Ireland Business Banking's newly-launched 'The Job Index'. Using Central Bank classification of sectors, the Index tracks the number of jobs advertised in the Irish daily and Sunday newspapers.

The number of construction jobs advertised grew steadily over the year. There were over 10% more jobs advertised in the two-month period March/April 2003 compared with the same two months of 2002. The strongest period for construction jobs was between August and November 2002.

Irish Fan Moves

Irish Fan Distributors has moved to a new, purpose-designed premises at unit 626, Northern Extension, IDA Industrial Estate, Waterford. Telephone, fax, etc remain unchanged.

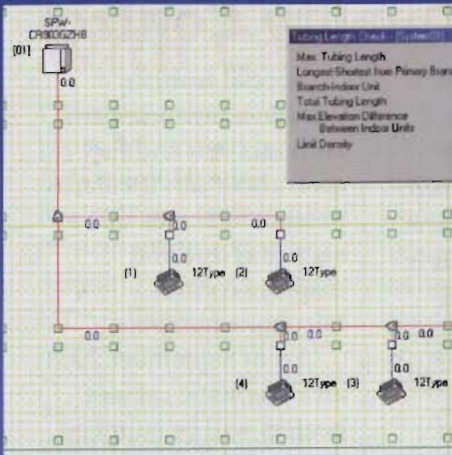
Contact: Billy Wright, Irish Fan Distributors.
Tel: 051 - 852404;
Fax: 051 - 873440;
email: sales@irishfandist.com;
Web: www.irishfandist.com



Bannon Elected SCS President

Joseph Bannon (right), Managing Partner of Atis Harrington Bannon, has been appointed President of the Society of Chartered Surveyors (SCS) in Ireland. He is pictured here being congratulated by outgoing President John Daly (far left).

From design... through supply... to completion



Sanyo Air Conditioners support you all the way

From our position in the premier league of global air conditioning manufacturers, Sanyo Air Conditioners have enjoyed phenomenal growth over the last 2 years, mainly due to the continuing recognition of the quality and reliability of our Eco-Multi VRF range of products.

Cooling only, Heat pump or simultaneous Heating and Cooling...

...the choice is yours with outdoor unit options starting at 11.2kW through to 84kW all applications can be catered for. A full range of indoor units ensures internal requirements are met.

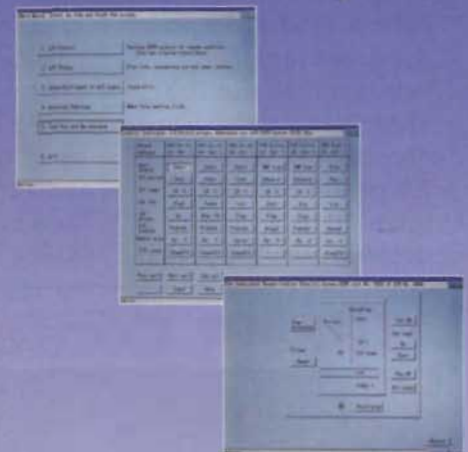


Sanyo Split systems

By utilising the same indoor units for VRF and our Commercial Split ranges, we offer a large variety of unit types and functionality not normally associated with split systems. This commonality also enables Splits and VRF's to be directly linked to a full range of 3rd party BMS Systems.

Computerised control...

...with either Sanyo dedicated AMY software or integrated with other systems via 3rd party software, any and all user requirements can be achieved.



And so to the future...

...to be introduced during 2003

With so many sites having electrical power restrictions, either a lack of 3 phase option or a general shortage of available power, the Sanyo GHP offers a clean and easy solution. Powered by natural gas or LPG we offer full VRF technology and flexibility, by just a change of the outdoor unit. Like the rest of our range we utilise standard indoor units and controls thereby enabling us to introduce an entire new option for your clients consideration. With the lower cost of gas, capital costs are paid back within a realistic timeframe.



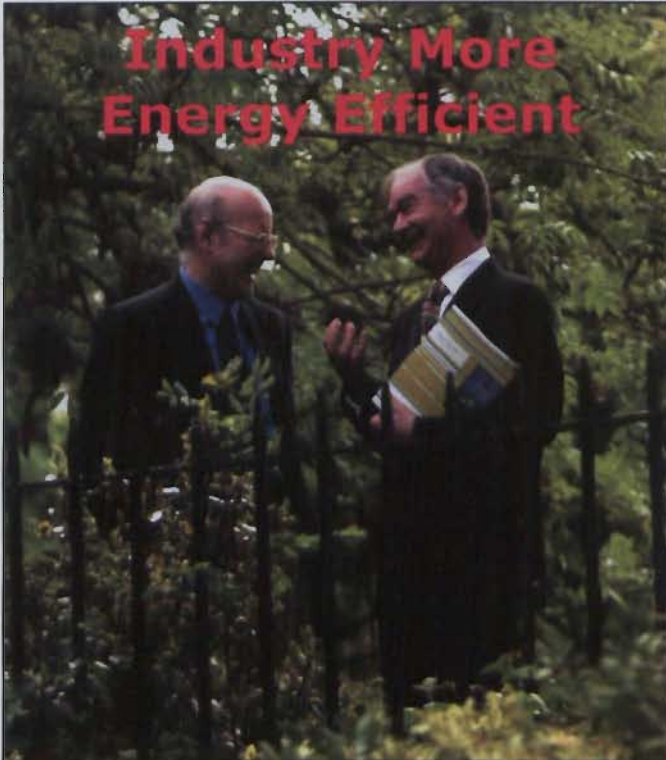
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Industry More Energy Efficient



Professor Frank Convery, SEI Chairman with David Taylor, SEI Chief Executive.

Energy in Ireland 2002, the recently-published SEI report, shows that the energy intensity of Ireland's industrial sector decreased rapidly between 1990 and 2000. There was a 7.5% decrease per annum over the period 1990 to 1995, followed by a 9.5% decrease over the period

1995 to 2000.

Energy intensity is defined as the amount of energy required to produce one euro of value added. Between 1990 and 2000, the value added of industry grew by 173%, whereas industrial energy consumption grew by 30.8%.

IPFMA Conference



Pictured at the IPFMA Public Transport Infrastructure conference in Dublin recently were Ger Hannon, Director of Corporate Services, Rail Procurement Agency; Eugene McCague, Chairman, Transport Committee, Dublin Chamber and Managing Partner of Arthur Cox; and Felix McKenna, IPFMA Chairman and Head of Shared Services, Eircom.

Eurotol Quality Control

The new Eurotol from Powrmatic is a high specification heating controller that has been designed with installers and users in mind. It is very sophisticated in terms of control options and special features but, more important, it is simple to operate.

The unit gives total flexibility on switching times and temperatures and incorporates optimum start and stop as standard. Varying levels of security are programmable to safeguard unauthorised use.

Special features include a measurement on hours run and fuel cost; also a service alarm prompt indicates that a service is due and displays contact telephone numbers.

From September 2003 all Powrmatic cabinet heaters will be supplied as standard with the new Eurotol built in and pre-wired. This will save the installer valuable time and money having only to provide mains supply to the cabinet.

Contact: Tony Delaney, Powrmatic, Ireland.

Tel: 01 - 452 1533.



Eurotol is a high-specification heating controller from Powrmatic Ireland

3D Air Sales Move

3D Air Sales (Ireland) Ltd, distributors of Mitsubishi Heavy Industries' products in Ireland, has moved to new, more spacious premises at Unit 8, Greenhills Business Centre, Greenhills Industrial Estate, Tallaght, Dublin 24.

Michael Clancy advises that the

telephone and fax lines have been changed.

New details are as follows:—

Main line —

Tel: 01 - 462 7570;

Spare parts —

Tel: 01 - 462 7605;

Product Selection —

Tel: 01 - 462 6617;

Fax: 01 - 462 7611;

email: info@mitsubishi-airconditioning.com

'Save Time & Money With Calpex'

Calpex district heating pipes are stocked by Polytherm Heating Systems in a wide range of sizes, from 20mm to 110mm pipe sizes. The pipe is made of crosslinked polyethylene, which is widely regarded as the most durable plastic heating pipe on the market today.

Polyurethane insulation is co-extruded with the pipe to form an extremely well-insulated pipe with a thermal conductivity of <math><0.032\text{W/mK}</math>. On the outside, a LDPE seamlessly extruded layer protects against moisture and mechanical influence.

Calpex is used in many applications throughout the industry such as connecting remote boiler house locations to the main heating system, or for small and large-scale social district heating schemes.

Advantages over conventional heating pipes:—

- Can be supplied in lengths as long as 527m;
- No connection sockets required;
- Easier planning/routing due to flexibility;
- 1000 m/day can be laid;



Calpex involves no welding, special fixing tools or specialist expertise

- Small trenches ... typically 60% of standard trenches;
- Small bending radius;
- No welding, no special tools or

expertise required.
 Contact: Seamus English,
 Polytherm Heating
 Systems Ltd.
 Tel: 01- 4191990;
 email: seamus@hevac.ie

Win a Sanyo DVD Reader competition

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



June competition

- 1) Who is the new chairman of the Republic of Ireland Branch of CIBSE?
 - a) Kevin Tracey
 - b) Alan Duggan
 - c) Margaret Dolan
- 2) What does the abbreviation "LCD" stand for (as used in Sanyo Remote Controllers)?
 - a) Liquid Crystal Diode
 - b) Low Colour Display
 - c) Liquid Crystal Display

- 3) Which city will host the international air conditioning show Interclima in February 2004?
 - a) Milan
 - b) Paris
 - c) Madrid
- 4) Which car manufacturer produces the 911 Turbo?
 - a) Ferrari
 - b) Porsche
 - c) BMW
- 5) When comparing refrigerant operating pressures between R407C and R410A, is R410A...
 - a) Higher than R407C?
 - b) The same as R407C?
 - c) Lower than R407C?

Name: _____

Company: _____

Address: _____

Postcode: _____

Email: _____

Tel: _____

Fax back to BSNews on 01 288 6966

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

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 AIR CONDITIONERS

LOOK OUT
 for next month's
 Super
 Prize

Danfoss Introduces Revolving Technology Bi-Directional Breakthrough

Danfoss Randall's new, innovative range of Revolver "flow selectable" bi-directional TRVs provides the total answer to system

noise linked to bi-directional TRVs and overcomes wasted time and costs arising from associated call-backs and re-plumbing.

Bi-directional radiator thermostats — energy-saving room temperature controls introduced in the late 1990's — are a tremendous boon to the installing trade because they operate noiselessly despite being fitted quickly in either flow or return without the need to check flow direction. Well, that is the theory. In practice a limited number of installations (probably less than 5%) create annoying and intolerable system noise if the flow

enters on the "wrong" side of the valve cone.

The reasons for the problem are extremely complex. Briefly, every hydraulic system exhibits its own dynamic characteristics that arise from system rigidity, differing pipe bores, pipe runs, pump pressures and the water volume circulating within the system. Completely unpredictable, these characteristics change significantly with heating loads as TRVs and other valves open and close. System noise (water hammer) generally arises from pressure pulses occurring, typically, when a TRV slams shut. These pulses can reach many times the normal differential pressure seen in the system and tend to

increase in magnitude the longer they are sustained. Unfortunately, simply fitting an automatic bypass valve cannot prevent them.

Following extensive market needs research during the 1990s, the first "bi-directional" valve bodies were introduced by a number of manufacturers. The designs for these were based on the original uni-directional concept, with modifications to optimise the valve cones, valve chambers and springs. In most installations, these valves have been very successful, allowing hassle-free installation in flow or return, either horizontally or vertically, and noise-free operation. Unfortunately, as many installers have learned,

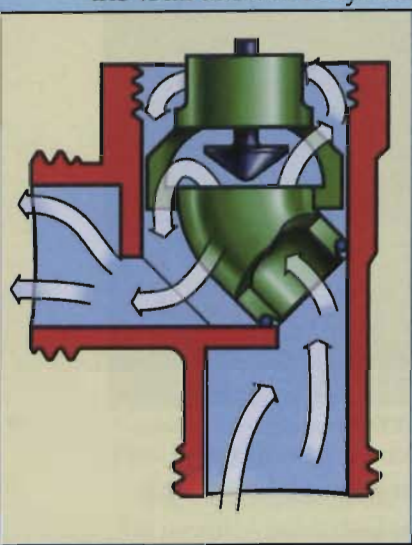


Figure 1 — Diagram showing water flowing correctly through the Revolver valve

Now you can be 100% sure water is flowing through the TRV in the right direction!

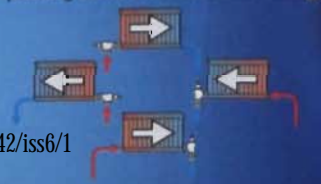
Just turn...

Without a doubt bi-directional TRVs are a huge installer benefit, but occasionally even the best don't live up to expectations and can let you down.

The new and unique Danfoss flow selectable bi-directional TRV provides an instant solution in such situations. Just a simple turn of the setting ring will change the direction of water flow within the valve, solving any problems. No tools, no draining down, no loss of profit or reputation.



For these valve positions and flow directions align **DOWNWARD** pointing arrow with reference mark



Introducing the
RAS-C² Revolver
 the only
'flow selectable'
 bi-directional TRV...

these "adapted" valves do not provide the answer to system noise every single time. Whenever this problem occurs, due to the dynamics of a specific system, the only solution until now has been to remove the valve and refit it so that water-flow through the valve was from below the cone. In the small percentage of installations where noise problems did occur, the resultant frustration and costs became unacceptable to the installing trade.

After an in-depth research programme into the problem Danfoss established that there was no way of ensuring that any of these "first edition" bi-directional valves could provide

noise-free operation every time. The only way ahead was to produce a new, redesigned product.

The solution — the new Danfoss Revolver "flow selectable" valve — has a similar valve cone design to those in previous bi-directional valves and can be installed without regard to the direction of flow. It will give trouble-free, silent operation in the vast majority of installations.

However, should system noise occur, the problem can be cured quickly and permanently simply by manually rotating a setting collar. There is no need to drain down, refit the valve, or use any tools.

The Danfoss Revolver valve body incorporates a

patented, rotatable flow direction selector, a cleverly-designed moulding located within the main valve chamber. Water flows through this flow direction selector, which is sealed at the chamber inlet. Just a simple 180° rotation of the setting collar changes the flow from one TRV inlet to the other (see Figures 1 & 2), making it possible to ensure the inflow is always from below the valve cone and thus eliminate any possibility of system noise.

□ Danfoss has also introduced a new generation thermostatic radiator sensor – RAS-C2 – a modern, compact alternative to the RAS-C.

The RAS-C2 is competitive in terms of

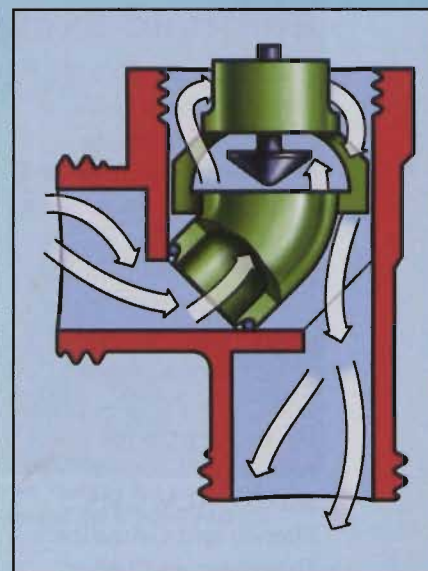


Figure 2 — Diagram showing the Revolver mechanism correcting the water flow within the valve in situations of reverse flow

price and is ideally suited to both the domestic and commercial markets.

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

RAS-C² Revolver



You can change the TRV to match the flow in just seconds!



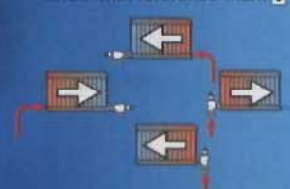
Reverse flow

The patented flow direction selector provides extra peace of mind and need only be adjusted if a problem is encountered.

Install the TRV in flow or return, vertically or horizontally, as you would a traditional bi-directional TRV. If water hammer occurs, just turn the flow selector ring to the alternate setting to resolve the problem.

An innovative solution from Danfoss, the inventors of radiator thermostats.

For these valve positions and flow directions align UPWARD pointing arrow with reference mark



Danfoss

Tel: + 353 1 6268111 Fax: + 353 1 6269334

Published by ARROW@TU Dublin, 2003
 e-mail: marketing@danfoss.ie

Eurofluid Expansion Continues

Following significant expansion last year Eurofluid Handling Systems has experienced a further 20% increase in turnover for the first six months of 2003. Growth is evident across the entire range, from the own-manufactured systems right through to the major principals represented such as Sondex, ACV, GMS, Flamco and Grundfos. To sustain and better service that growth, Eurofluid has re-structured its administration and support networks and appointed Liam Trundle to ensure that all the necessary behind-the-



Liam Trundle who has joined Eurofluid Handling Systems

scenes operations function for the optimum benefit of customers. Contact: Liam Trundle, Eurofluid Handling Systems. Tel: 01 - 460 0352; email: eurofluid@eircom.net

Reconair Services Move

Reconair Services have moved to new, more extensive premises located in Dublin's northside.

The new address is 37 Finglas Business Centre, Jamestown

Road, Dublin 11. New telephone and fax numbers are: Tel: 01 - 864 4397; Fax: 01 - 864 4408. Email remains unchanged — hvac@reconair.ie

Grant Scoops Major Award

Grant Engineering's Vortex oil-fired condensing central heating boiler has been named "Domestic Heating & Ventilation Product of the Year 2003" in the UK *H&V News Awards of Excellence*.

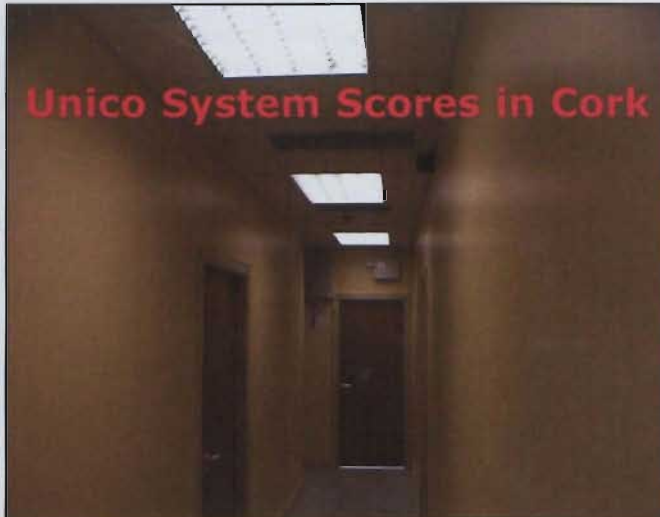
The judging panel said they were "highly impressed by Grant's development of the most efficient oil boiler on the market, which takes oil heating technology into a new energy efficiency bracket. Although the boiler can deliver high efficiency levels 100% nett (Sedbuk 'A' 94-

95%), it is a relatively simple design avoiding the use of complex electronics to ease maintenance and fitting".

Grant Engineering has substantial research, development and production facilities as well as training and distribution centres in both Ireland and the UK totalling 75,000 sq ft and employing some 200 personnel.

Contact: Stephen Grant/John Fay, Grant Engineering. Tel: 050 - 920 089; email: info@grantengineering.ie

Unico System Scores in Cork



Southern Health Board offices in Cork

Unico System from Unico System Ireland has been making significant inroads throughout the country, two recently-completed projects in Cork demonstrating the capability and versatility of this innovative central heating and air conditioning concept.

The first involved the new 7,500 sq ft Southern Health Board complex which required even room temperatures, floor to ceiling, wall to wall, throughout. Unico System provided not just the perfect comfort solution but also an extremely low-running cost one by using two Mikrofil modulating condensing natural gas boilers connected to a Systemzone distribution manifold. In all the system comprises three units with a total of 12 zones.

Installation was by Holmes Heating Engineers.

The other project was also installed by Holmes Heating and was at the Tao Tao Chinese restaurant in Cork.

The equipment comprised one Unico 4260 (25Kw) unit which is used for heating with a Mikrofil modulating condensing natural gas boiler providing the heat source connected to a Systemzone distribution manifold. Customers have complimented the management on how comfortable the restaurant feels, being especially surprised that all the heating comes from the small outlets.

Contact: Eamon Fidgeon, Unico System Ireland. Tel: 044 - 84881; email: ejfidgeon@unicosystemireland.com



Tao Tao Chinese restaurant in Cork

More Efficiency – Less Cost

Toshiba was the first in the world to introduce the cassette air conditioner, the most popular air conditioning system in Europe. It also invented the inverter compressor, now used in most of the world's leading air conditioning VRF (Variable Refrigerant Flow) systems.

Now with the launch of the Digital Inverter, Toshiba has produced a range of units designed to deliver some of the highest energy-efficiencies on the market. This system, which operates using environmentally-friendly refrigerant, has been designed to operate on a single phase power supply with a range of

units to suit almost any taste and interior layout.

Installation of these units is simple – an indoor unit is located within the room to be cooled or heated and is connected to an outdoor unit (up to 50M away) with small-bore refrigerant pipes.

To complement the Digital Inverter, Toshiba has also introduced a new concept in air quality. The Daiseikai Inverter wall unit has a 3-stage filtration process which is designed to remove all airborne particulates (down to .01 microns). The activated carbon filter removes odours from the air while the built-in ioniser ensures a



With the launch of the Digital Inverter, Toshiba has produced a range of units designed to deliver some of the highest energy-efficiencies on the market.

crisp, clean environment. This unit is particularly suitable for people who suffer from allergies such as hay fever.

GT Phelan (distributors for Toshiba Air Conditioning in Ireland) offers a complete design, installation and maintenance service and work closely with clients

to select the most appropriate system for each particular need.

Contact: Rodney Phelan/Derek Phelan, GT Phelan.

Tel: 01 - 286 4377;

F: 01 - 286 4310;

email:

gtphelelan@eircom.net

Web: www.gtphelelan.ie

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

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

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



Four-way cassettes



Ducted units



Console and under-ceiling units



High-wall units



TOSHIBA
AIR CONDITIONING

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

Tel: 01 - 286 4377 Fax: 01 - 286 4310 email: gtphelelan@eircom.net Web: www.gtphelelan.ie

Daikin Celebrate 21 Years of VRV

This year Daikin celebrates 21 years of VRV, an industry innovation which marked a significant milestone in the development of air conditioning and which has, over the years, become the benchmark by which all innovation within the industry is assessed. Over the years Daikin has refined and further developed the concept, introducing additional features and benefits which resulted in increased performance but with reduced energy-usage. Brief details of the history of VRV are as follows.

1987 — The original VRV air conditioning system developed by Daikin in 1982 is introduced into Europe in VRV standard format. The system is able to supply conditioned air from up to four indoor units connected to a single outdoor unit.

1990 — The end of the year sees the launch of the new VRV Inverter system with the facility to operate up to eight indoor units from a single outdoor unit. Inverter capacity control greatly increases system flexibility and efficiency.

1991 — A further step forward is taken in 1991 with the introduction of the VRV Heat Recovery system, offering simultaneous cooling and heating from different indoor units on the same refrigerant circuit.

1992 — Continuous improvements to energy efficiency and system flexibility lead to the development of the advanced Hi-VRV in which fresh air supply (HRV) and computerised management (DACMS) are integrated with the VRV

1994 — Consistent high quality and efficiency lead to the widespread acceptance of the VRV concept and Daikin becomes the first Japanese air conditioning manufacturer to be awarded the ISO9001 certification.

But the search for improved flexibility and energy efficiency does not stop there. Unrivalled field experience and close regard to market requirements enables Daikin to apply yet another quantum leap to VRV technology — the VRV Inverter-H Series — operating up to 16 indoor units from just one outdoor unit!

1998 — In anticipation of phase out dates for all CFC-based equipment, Daikin Europe steps up the production of VRV air conditioning units using Ozone Friendly Refrigerant.

Daikin Europe celebrates its 25th anniversary with the award of an ISO14001 environmental certificate and the introduction of VRV Inverter-K Series with R-407C, in cooling only or heat pump format. As many as 16 indoor units can be

connected to one single outdoor unit.

1999 — The VRV Plus Series using R-22 has been designed around leading-edge technologies to accommodate high-capacity air conditioning networks of up to 30 indoor units from a single refrigerant circuit. Another step forward with the launch of the VRV Heat Recovery Series using R-407C refrigerant and connecting up to 16 indoor units to one single outdoor unit.

2000 — Because of the growing needs of large-capacity systems, Daikin Europe introduces the VRV Plus series using Ozone Friendly Refrigerant, in heat pump format. Up to 32 indoor units can be connected to a single refrigerant circuit.

2001 — The latest addition to the VRV Plus series is the VRV Plus Heat Recovery Series using R-407C. Up to 32 indoor units can be connected to a single refrigerant circuit.

2002 — Daikin launches the new VRV Series — an environmental friendly, energy-saving series with high COP levels and flexible design characteristics.

New for 2003 — Daikin Europe has achieved a quantum leap forward in commercial air conditioning technology by the introduction of its VRVII — the world's first R-410A operated variable refrigerant flow system.

Available in cooling only, heat pump and heat recovery versions, the new system, which represents a considerable advance over earlier VRV systems, demonstrates Daikin's innovative application of new technology and the latest HFC refrigerants to its VRV product programmes.

Many new features and installation benefits are incorporated in VRVII. Its operating range for example — 5hp, then 8hp to 48hp in 2hp increment steps (22 system combinations) — is wider than any of its contemporaries. Furthermore, its ability to run no less than 40 indoor units in heat recovery as well as heat pump format cannot at present be matched by other comparable systems.

As the foregoing illustrates, developing the VRV system was a Daikin innovation, which set in motion a pioneering development process which has changed the very nature of providing air conditioning solutions. It was more a starting point which set in motion a pioneering development process which has changed the very nature of providing air conditioning solutions. In celebrating 21 years Daikin is not looking back. It is firmly focussed on the future and the coming years will see the introduction of equally-innovative developments which will continue to set the standard which other manufacturers will wish to emulate.

Contact: Brendan Kilgallon, Coolair.
 Tel: 01 - 451 1244;
 Fax: 01 - 462 3434;
 email: info@coolair.iol.ie

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Multipurpose Vents, Chimneys and Flues from Selkirk

Selkirk produces a comprehensive range of vents, chimneys and flues for most domestic and commercial applications, covering appliances such

as boilers, diesel generators, cooking ranges and incinerators, and garbage chutes.

Chimney and vent systems are single- or twin-walled multi-application prefabricated products. Available in a large range of sizes (100mm to 1200mm) and materials, they are designed to convey gases, particles, fumes, smoke and products of combustion from a wide range of fuel-burning and process equipment.

Designed to be used as an alternative to heavy welded steel, the systems are light in weight and capable of accommodating continuous temperatures up to 760°C and pressures from 0 to 1500mm w.g., with fire ratings from 30 minutes to 40 hours.

With a variety of fittings and straight lengths available, Selkirk vents can be installed in many different configurations, both internally and externally. Being fabricated and, in most cases insulated, the systems are easily handled and quickly installed. Materials are chosen to suit the particular application to hand.

The Selkirk IL is a gas vent designed for use with gas appliances, typically in domestic and small commercial installations, with draught-hoods or with flue gas temperature

not exceeding 260°C and zero or negative pressure in the flue.

The factory-made twin-wall IL comprises a range of straight pipe lengths and associated fittings and accessories, and the aluminium liner is protected by an outer casing of Zalutite.

Selkirk SMW is a twin-wall mineral-wool insulated stainless steel system designed for use with oil and gas fuels. It is available with a full range of fittings and accessories in twelve diameters ranging from 127mm to 600mm. Diameters of 127mm to 203mm are specially manufactured, tested and Kitemarked to BS 4543 Part 3 for use with oil and gas fired equipment.

Selkirk QC system comprises a range of prefabricated Zalutite outer, aluminium inner, twin wall vent pipe lengths and fittings for use over gas fired appliances. These must be draught-hooded, have a flue gas temperature not exceeding 260°C, and have zero or negative pressure in the flue. Such appliances include cooking equipment, central heating boilers, modular boilers, small furnaces, water heaters and unit air heaters. The system is available with a full range of fittings and accessories in 10 sizes from 178mm to 600mm.

Selkirk SW is a single wall stainless steel flue system for gas and oil-fired air heaters, gas-fired ceiling heaters, warm air blowers

and gas appliance connection. Designed for use with flue gas temperatures up to a maximum of 260°C, the product is available with a range of fittings and accessories in eight sizes from 125mm to 350mm.

Europa is a versatile twin-walled stainless steel system suitable for commercial and industrial applications that require a pressure-tight extract and where the high-quality polished stainless steel finish gives an aesthetically-pleasing appearance.

For commercial applications, Selkirk chimneys can be supported on free-standing masts up to 50m high; the mast provides easy access for inspection and maintenance.

All products within the range are made to stringent standards such as BS 5750 quality assurance (ISO 9002) with a number of products being approved in most major markets. The company also offers technical advice, quotations, computer-aided designs, assistance with sizing, installation advice and field assistance through Irish distributors Hevac Ltd.

Contact: Declan Kissane/Karl Carrick, Hevac.

Tel: 01 - 419 1919;

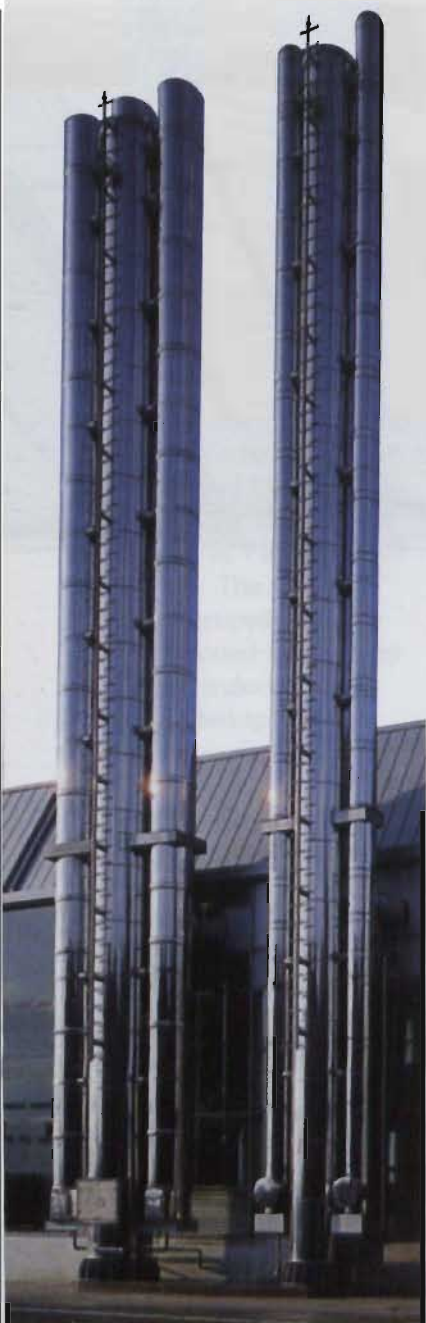
Fax: 01 - 458 4806;

email: karlc@hevac.ie

Cork —

Tel: 021 - 432 1066;

Fax: 021 - 432 1068.



The broad range of Selkirk chimneys and vents from Hevac caters for all requirements, from small projects right through to the largest



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Unit 18d, Euro Business Park
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SystemFlue From Powrmatic

The SystemFlue range from Powrmatic is renowned for its versatility, quality and scope of application. There are units to suit all possible situations, with a full range of complementary accessories. Essentially, the range can be divided into the following product segment types.

System 90 Domestic Gas Vent —



System 90 is a high-quality, prefabricated chimney system manufactured to BS 715 and suitable for gas fired appliances with flue gas temperatures up to 250°C continuous firing. The system consists of straight lengths and associated fittings and is available in three different internal diameters, 100mm, 125mm and 150mm.

System 1 —



This is a high-quality stainless steel single-wall flue system suitable for oil and gas fired appliances with flue gas temperatures up to 450°C continuous firing. The system consists of straight lengths and associated fittings and is available in nine different internal diameters from 100mm to 350mm.

JasoSystem 90 AVZ Insulated Gas Vent —

This is a high-quality, prefabricated chimney system suitable for domestic appliances firing on 28 sec oil, or gas fired appliances with flue gas temperatures up to 250°C continuous firing.



System 250 Multi-Fuel Insulated Chimney —

This is a twin-wall insulated stainless steel chimney intended for multi-fuel applications. Manufactured to BS 4543, it is a high quality, prefabricated chimney system suitable for oil and gas fired appliances with flue gas temperatures up to 760°C continuous firing. System components from 125mm up to 200mm internal diameter are also suitable for solid fuel appliances.

The system consists of straight lengths and associated fittings and is available in twelve different internal diameters from 125mm to 600mm.



System 250 GV Commercial Gas Vent —

System 250 GV is a high-quality, prefabricated gas vent suitable for atmospheric gas fired appliances with flue gas temperatures of up to 260°C.

The system consists of straight lengths and associated fittings and is available in 10 different

internal diameters from 175mm to 600mm.



System 500 Twin Wall Insulated Chimney —

A pressure type fire rated chimney ideal for condensing boilers, this high-quality, prefabricated chimney system is suitable for oil and gas fired appliances with flue gas temperatures up to 450°C continuous firing. For higher operating conditions please contact a member of our Head Office staff.

The system consists of straight lengths and associated fittings and is available in eight different internal diameters from 250mm to 600mm.



Contact: Tony Delaney, Powrmatic Ireland.
Tel: 01 - 452 1533;
Fax: 01 - 452 1764.

North/South Golf Challenge at Nuremore

With the sun beaming down on the Nuremore Hotel & Golf Club on the 17 April, the scene was set for a fantastic CIBSE North/South Golf Challenge 2003. This year the event was hosted by the Republic of Ireland Branch with Ardline Aircon (the recently-appointed sole distributor for Hitachi in Ireland) as sponsor.

Having had a break for a number of years, this was only the second year of the event's recent

history. The Republic Branch won the cup last time, so the pressure was on for the North to pick it up in 2003. To add an extra edge to the event, Ardline Aircon provided an excellent array of prizes for the winning team members and for individuals.

The Nuremore course posed a stiff challenge for all the competitors. It took approximately four hours to get around and afterwards rumours abounded about who

won and how close it was.

Following a really superb meal Kevin Tracey (Chairman of CIBSE Republic of Ireland) gave an after dinner speech which was followed by the presentation of prizes by Colin Murphy (CIBSE) and Damien Byrne (Business Development Manager for Ardline Aircon). There were numerous individual prizes, with Ian Fawcett picking up individual first place.

Then it was on to the big one, the team event. It was close, very close.

With only two points in it, CIBSE Northern Branch picked up the cup for 2003.

The day was immensely enjoyable and a total success. A particular thank you goes to Kevin Tracey and Colin Murphy, not forgetting of course the event's new long-term sponsor, Ardline Aircon. They are now committed to sponsoring the CIBSE North/South Golf Challenge (when hosted by the Republic of Ireland Branch) until at least 2013.



The Chairman's Team — Sean Smith, Gordon Strain, Kevin Tracey (CIBSE Chairman) and Bryan Montgomery



The North/South Challenge Teams after a great day at Nuremore Golf Club, Co Monaghan



The victorious 2003 winners, the Northern Team — Colin Kirkpatrick with Sean McCormack, Sean Smith, Mark Taylor, Neale Archibald, Mark Hunter, Brian Montgomery and Ian Fawcett



Student Awards

The CIBSE Student Awards took place in the Dublin Institute of Technology, Bolton Street, last month with a large attendance witnessing the ceremony which was chaired by Don Byrne, Head of Building Services Engineering, DIT. CIBSE President Doug Oughton made the actual presentations and, in his

address, emphasised to students the importance of continuous attendance at CPD lectures. Others present included the then Republic of Ireland Branch Chairman, Brian Sterling with the new Chairman, Kevin Tracey and the Awards' assessors — Alan Duggan, Clive Walsh and Albert Byrne.



Diploma Award (1st) — Dominic MacAholig with Dough Oughton



Diploma Award (2nd) — Eugene O'Loughlin with Dough Oughton



Diploma Award (3rd) — Cian Geaney with Dough Oughton



Degree Award (1st) — Niall Dowling with Dough Oughton



Degree Award (2nd) — David Tagney with Dough Oughton



Degree Award (3rd) — Noel O'Connor with Dough Oughton



CIBSE Student Awards — Judges and special guests pictured at the recent CIBSE Student Awards were Alan Duggan, Doug Oughton, Brian Sterling, Kevin Tracey, Julian Amey and Don Byrne



ABC

ARCON BATHROOM CONCEPTS

Simple Solutions To Bathroom Design

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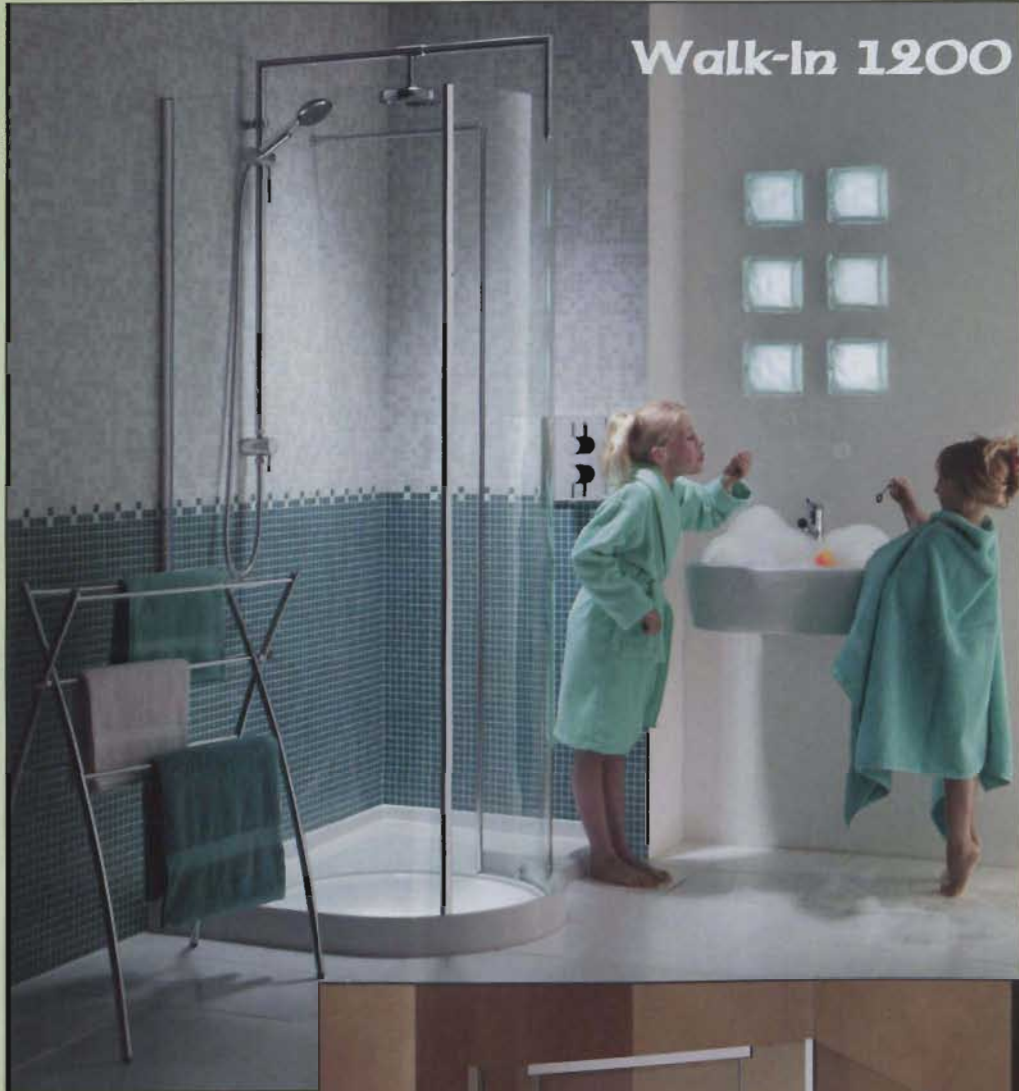
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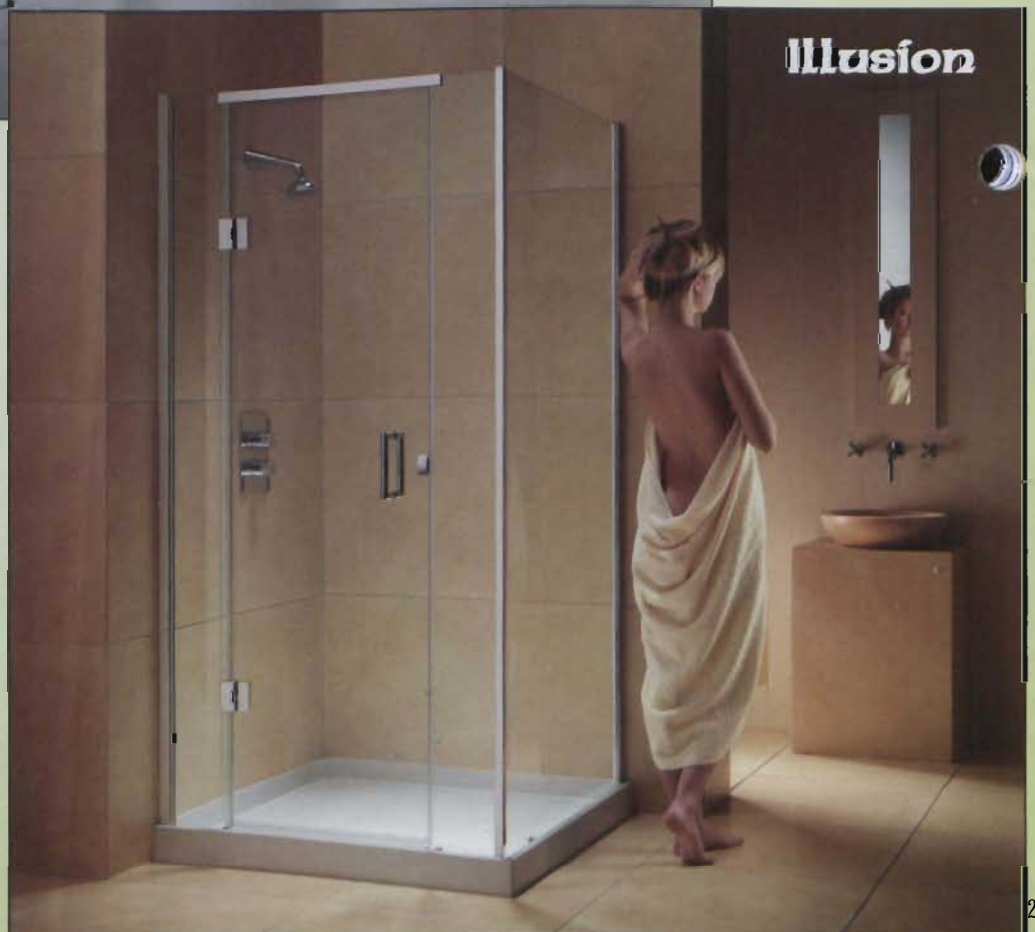
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Simple Solutions To Bathroom Design



Mark Mulville and Tony Callaghan,
Directors, Arcon Bathroom Concepts

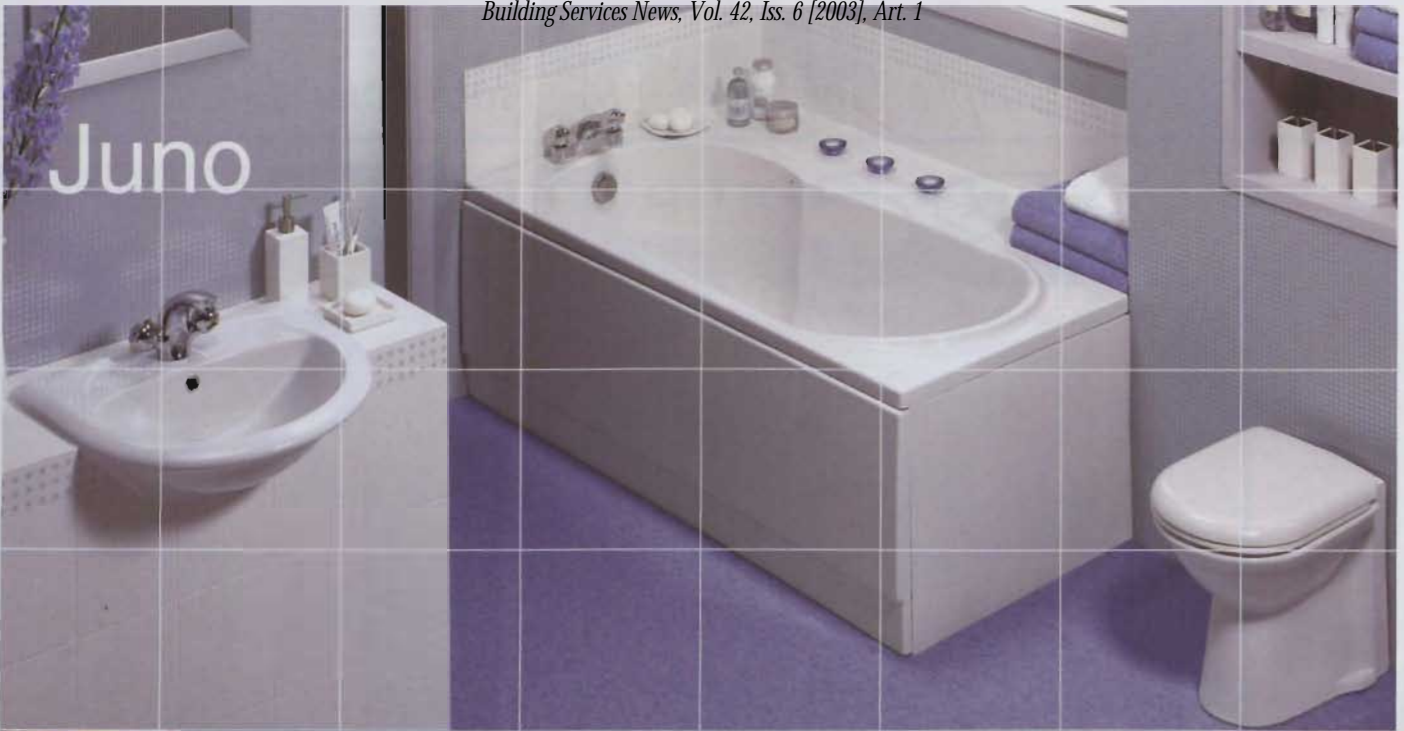
Arcon Heating & Plumbing Supplies needs no introduction to Ireland's building services sector. Over a period of 20 years principal Tony Callaghan and his colleagues have delivered a thoroughly-professional service combining cutting-edge, quality products with a full programme of technical advice and after-sales service support.

Right from the outset Arcon has been progressive and pioneering, anticipating emerging trends and sourcing the appropriate product solutions so that its broad customer base is always that one step ahead of the competition.

This process is never-ending and is epitomised by the latest Arcon development — the emergence of a new stand-alone division called Arcon Bathroom Concepts, or ABC for short. As the name implies, this is a dedicated division serving the bathroom sector with Mark Mulville at the helm as Sales Director. Mark is widely known and respected in the industry. His experience and knowledge of aesthetics is surpassed only by his technical ability and expertise.

Apart from the obvious, his particular strength lies in his ability to assess any given scenario and devise a tailor-made solution which accommodates the desired result within the allocated budget. Sounds simple but then, to execute simplicity is perhaps the most difficult thing of all.

If its Simple Solutions to Bathroom Design that's required, Arcon Bathroom Concepts has the answer.



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The product portfolio has always been extensive and all-embracing, catering for the entire building services spectrum. As such it includes everything from boilers and fittings right through to sanitaryware and related accessories.

Arcon and ABC are the conduits through which its blue-chip suppliers get their products to key decision-makers in the marketplace, be they architects, consulting engineers, contractors or interior designers.

The company's success — and by association the success of its suppliers and customers — is testament to the strength of that trading relationship and the bond that exists between the three vital cogs in the supply chain.

See It ... Feel It ... Touch It!

Critical to the integrity of the service provided by ABC is the quality of the showroom setting and, more especially, the facility to not only see but also feel and touch the products. With bathrooms in particular this is an essential part of the decision-making process.



Jean Byford and Ross Reddin

Bathroom Design For Feel Good Moments

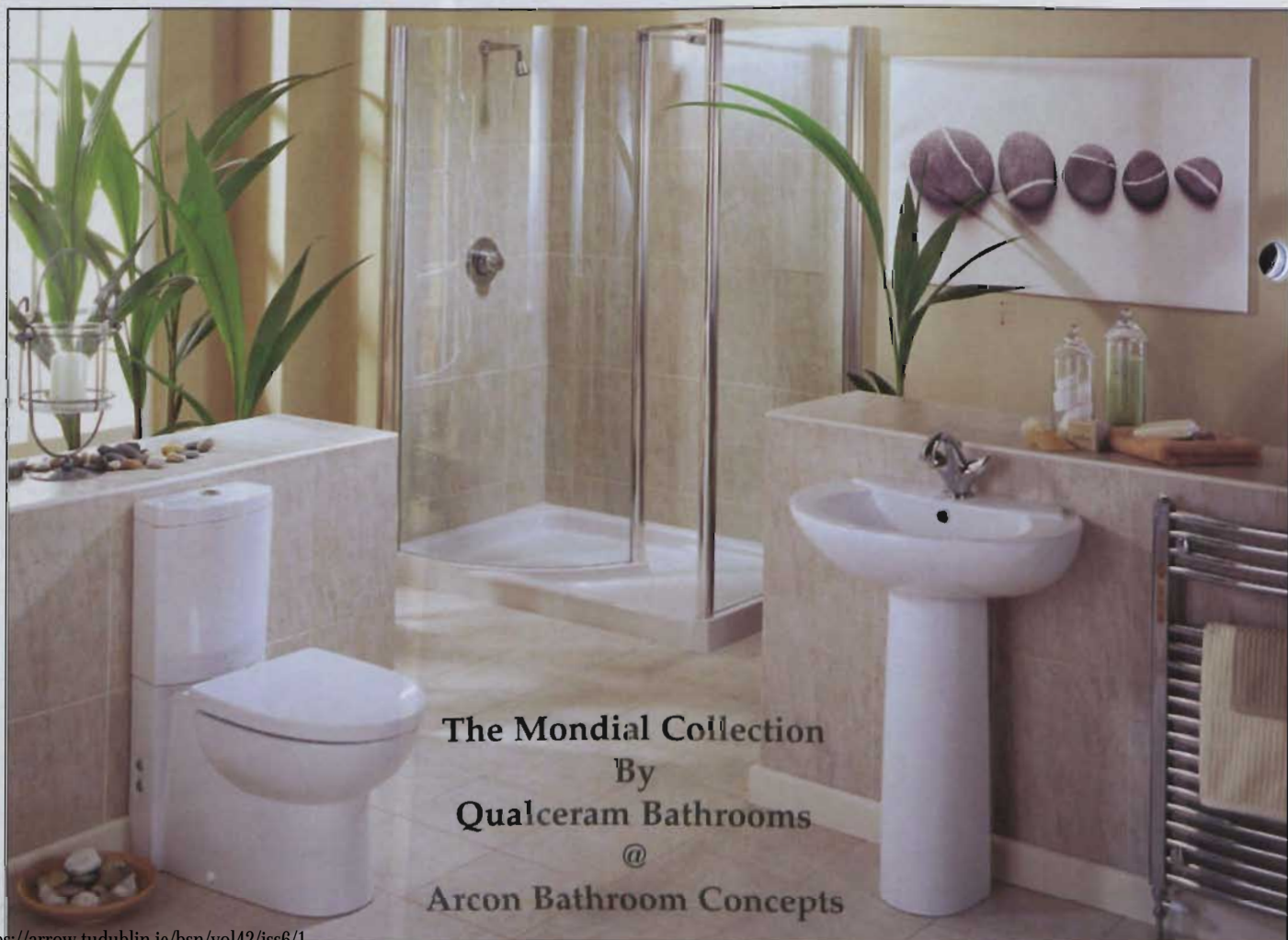
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Simple Solutions To Bathroom Design

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BETTE

Since the Bette company was founded in 1952, several million baths have been produced. Presently, more than 50,000 baths and showers are produced each month in the modern factory. With shaping and enamelling techniques exclusive to the company, around 250 different models are produced by about 270 employees; 500 colours can be chosen from. On request, Bette baths are supplied with a practical tiling upstand. Aprons made of steel/enamel, welded on or removable, save tiling and make installation easier. Three different whirl systems are available. All baths can be ordered with a permanently baked on anti-slip system or the water and dirt repellent surface BetteGlaze Plus. In addition, Bette provides made-to-measure shower screens made from real glass for both showers and baths. The variety is endless. A certificate is attached to every Bette bath, which guarantees the quality for the next 30 years.

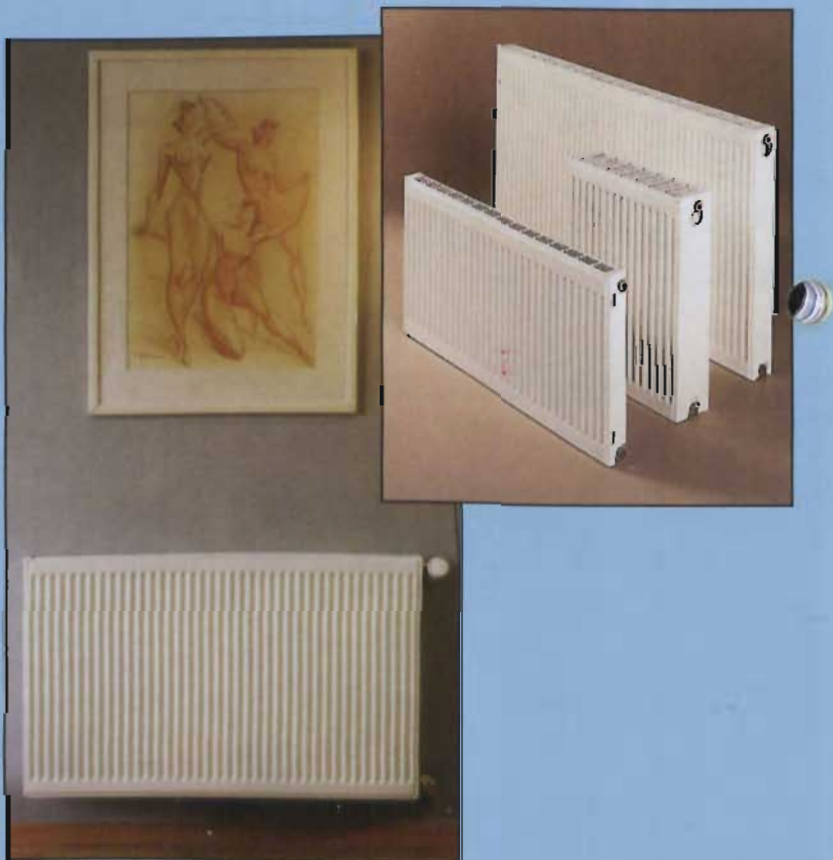
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Arcon Bathroom Concepts

Simple Solutions To Bathroom Design



SOTTINI BY AMERICAN STANDARD

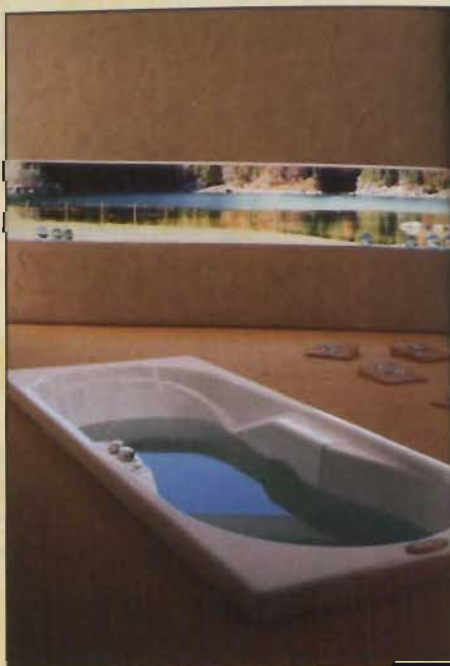
The Sottini Collection is characterised as art, design and sculpture, the functional form and lack of unnecessary ornament setting it apart from most of its competitors. Stunning bathroom designs have been created by brilliant designers such as Robin Levian, royal designer for industry, and internationally-famous architect Gae Aulenti.

The unique designs of mixers and taps have been given the same consideration and, as with the porcelain, many have been created by famous designers. Carefully crafted from solid brass and plated in chromium, they are as efficient as they are beautiful.

MATKI

Matki's unique collection is based on the principles of innovative design coupled with uncompromising construction. The result is a range of shower doors, surrounds, bath screens and shower trays of unquestionable quality.

Today, the pursuit of perfecting the showering experience is epitomised by models such as the new Illusion Shower Surround, the new Mirage Collection, the new 1200 Walk-In, and the new Elixir Thermostatic Shower Mixer range. Experience the timeless elegance and effortless style that is so unmistakably Matki.



JACUZZI

It's now over 30 years since the first Jacuzzi® whirlpool introduced the world to hydromassage at home. Since then the Jacuzzi brand has set the standard for quality and originality in over 100 countries, earning over 300 international patents along the way. Others have tried to copy the idea but, the fact is, nobody has ever equalled the unique attention to detail that goes into a genuine Jacuzzi bath or shower.

The Jacuzzi legend began here: with the world's most luxurious, most soothing, most invigorating hydromassage experience. The secret lies in the unique Jacuzzi jets — the most powerful hydromassage delivery system ever devised. The advanced interior contouring of each Jacuzzi whirlpool bath then positions each individual jet ergonomically for the best massage effect.

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Sottini



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Arcon Bathroom Concepts

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GROHE is the leading global brand for high-quality fittings and sanitary systems with a range of water technology products and systems that continually advance the standards of quality, functionality and design. It embodies a corporate culture which actively promotes innovation and ensures the swift translation of good ideas into new products.

Even though two thirds of the earth is covered with water, only 2% of this water can be used as drinking water. Sparing use of this element is therefore indispensable. Hence GROHE Water Technology offers water and energy-saving fittings and systems of the highest quality to ensure that this precious resource is not wasted.



Simple Solutions To Bathroom Design



QUALCERAM SHIRES

Qualceram Shires plc is Ireland's sole manufacturer of ceramic bathroom products. Established in 1988, the company now supplies "everything inside the bathroom door". In addition to the founding business of ceramics manufacture, the complex in Arklow also includes a bathroom furniture plant and warehousing facilities.

The Shires group of companies — acquired by Qualceram in September 2000 — is a long-established participant in the bathroom industry. Founded in 1934, the group now includes two sanitaryware plants; a shower enclosure factory; a fireclay and terracotta plant; and an acrylics plant and warehouse. In addition, Shires Ireland Ltd distributes group products in Ireland from distribution centres in Dublin and Belfast.



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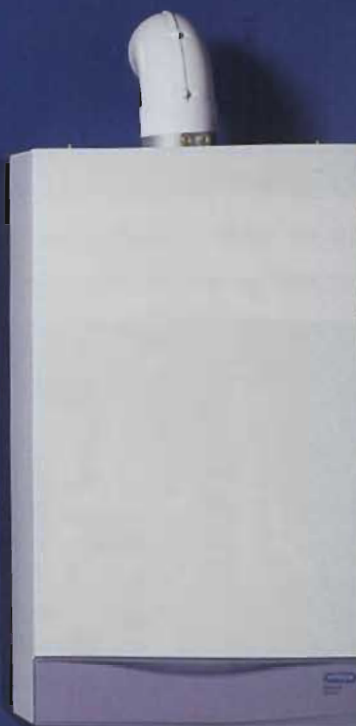
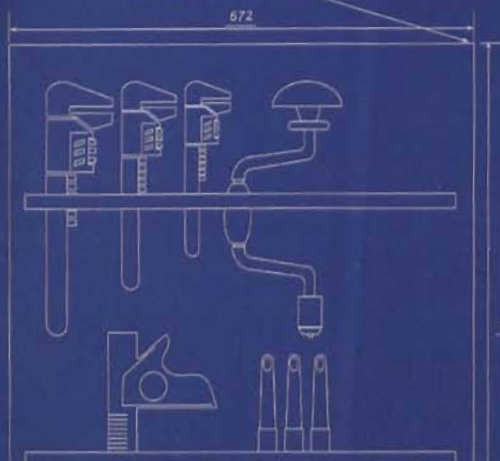
Potterton Myson (Ireland) Ltd
 Belgard Road, Tallaght, Dublin 24
 Tel: 01 - 459 0870
 Fax: 01 - 459 0880
 email: post@potterton-myson.ie

The Complete Boiler Range

POTTERTON

intelligently applied technology

Fixed boiler unit, 14 gauge flintel steel



Potterton Myson (Irl) Ltd
 Belgard Road, Tallaght, Dublin 24

Tel: 01 - 459 0870 Fax: 01 - 459 0880

email: post@potterton-myson.ie

Arcon Bathroom Concepts

Simple Solutions To Bathroom Design



LEFROY BROOKS

Traditionally, Lefroy Brooks has been known as the world's most famous manufacturer of classic bathroom brassware – taps (faucets), accessories and showers. However, about 10 years ago something changed when the company realised that people do not choose baths ... they choose bathrooms. They require a complete co-ordinated bathroom with accessories, baths, tiles, lighting, chinaware, showers and taps. A total look where colour finishes and styles match perfectly ... a whole ethos is in harmony ... a complete classic bathroom. Consequently, Lefroy Brooks set about devising such a range. The result is the Lefroy Brooks acclaimed collection of today.

HUPPE

Showers stand for relaxation, refreshment and stimulation and the HUPPE range of showers, enclosures, doors and accessories is designed to deliver on this objective. The collection is extensive and varied with a solution to suit all applications and budgets. Designs are innovative and trend-setting with the emphasis on aesthetics, safety and performance. Quality materials coupled with strictly-controlled manufacturing procedures ensure that whatever the desired individual showering experience, Huppe has a solution.



IMAGE

Image design and manufacture shower surrounds and bathscreens to the very highest standards. It combines many years of experience, intensive research, innovative design and up-to-the minute technology with skilled craftsmanship to create products which provide the centre-piece of all bathrooms, whatever the stylistic preference. There are three ranges to choose from — Ultra, Diamond and Arc. All are manufactured to British and European quality and safety standards.

CATALANO ZERO

Zero represents the largest programme of ceramic sanitaryware developed by Catalano during its 30-year history. Comprising 27 products of innovative style and design, the general theme is old-style traditional yet with a decidedly modern twist. The current range is organised in four systems — Zerolight, Zero, Zerokono and Zero+ — each representing a distinctive image and ambiance so that all customer preferences can be catered for. Strong geometrical shapes dominate and recall an era of elegant simplicity.



Merriott
DESIGN RADIATORS FROM BARLO

Discover the Range that made a **Market Leader**



Tall Column



Horizontal Panel



LST Radiators



Towel Radiators



Low Column Radiators

Merriott Radiators Ltd,
Unit 8, Broomhill Business Park,
Broomhill Road, Tallaght, Dublin 24.
Tel: 01 - 494 0101; Fax: 01 - 494 0125.
Email: sales@merriottradiators.com
www.merriottradiators.com

Arcon Bathroom Concepts

CIFIAL

For centuries, metal workers in Portugal have used their talents to create stunning objects in brass and bronze. For nearly 100 years, Cifial has worked with such talented artisans to craft exquisite door hardware, cabinet hardware, bath and kitchen faucets, shower components and related accessories.

Made of the finest materials available, products from Cifial combine timeless designs with innovation and technology. Today modern robotics and state-of-the-art processes have moved Cifial into the future, but "old world" craftsmanship and the pride of family ownership remain at the heart of the company.



MERLYN

Merlyn has a reputation for sophisticated and elegant styling of innovative shower doors and enclosures which are manufactured to exceed all relevant British and European standards.

They are designed and built to exacting specifications by highly-skilled technicians and artisans. High quality components are utilised throughout all three ranges of product to provide the ultimate performance. Safety and reliability are assured.

Merlyn shower doors and enclosures are designed to fit a wide variety of tray shapes and come in a range of sizes with integrated adjustment to compensate for the irregularities which can occur in installation sites.



Simple Solutions To Bathroom Design



Towel Design Radiators

High quality, High Design, Low cost



Pearl



Sapphire



Diamond



Opal



Emerald



Jade

Arcon Bathroom Concepts

Simple Solutions To Bathroom Design



DANSANI A/S

Dansani develops and designs bathroom furniture of high quality in which functionality, durability and aesthetics are paramount. All Dansani bathroom furniture carries a 2-year guarantee. Today the company plays a significant part on the international market for bathroom furniture.

Three key words apply to everything in the range — innovation, functionality and simplicity. While important to remain open to ideas and innovations throughout the creative process, the end result has to match users' needs and desires. The simplicity of Dansani's bathroom furniture is no passing trend, the classic lines and elegance being natural features of all quality bathroom furniture.

Dansani ... bathrooms that signal style, quality and personality.

LAUFEN

LAUFEN Sanitaryware Europe is an international ceramics company specialising in vitreous china and fine fireclay sanitaryware pieces and ceramic accessories. Innovative products are conceived with the common priority on design, quality, functionality and service, and are there to enhance convenience and quality of life.

LAUFEN's products are designed to improve comfort and quality of life with a broad range of colours and shapes to satisfy customers' individual needs. High quality, reliability, and creative design are the trademarks of all products. The raw materials are clay, quartz, feldspat, and kaolin. They are mixed, glazed and fired to create a robust and hygienic product designed in soft elegant forms for longer life.



ROCA

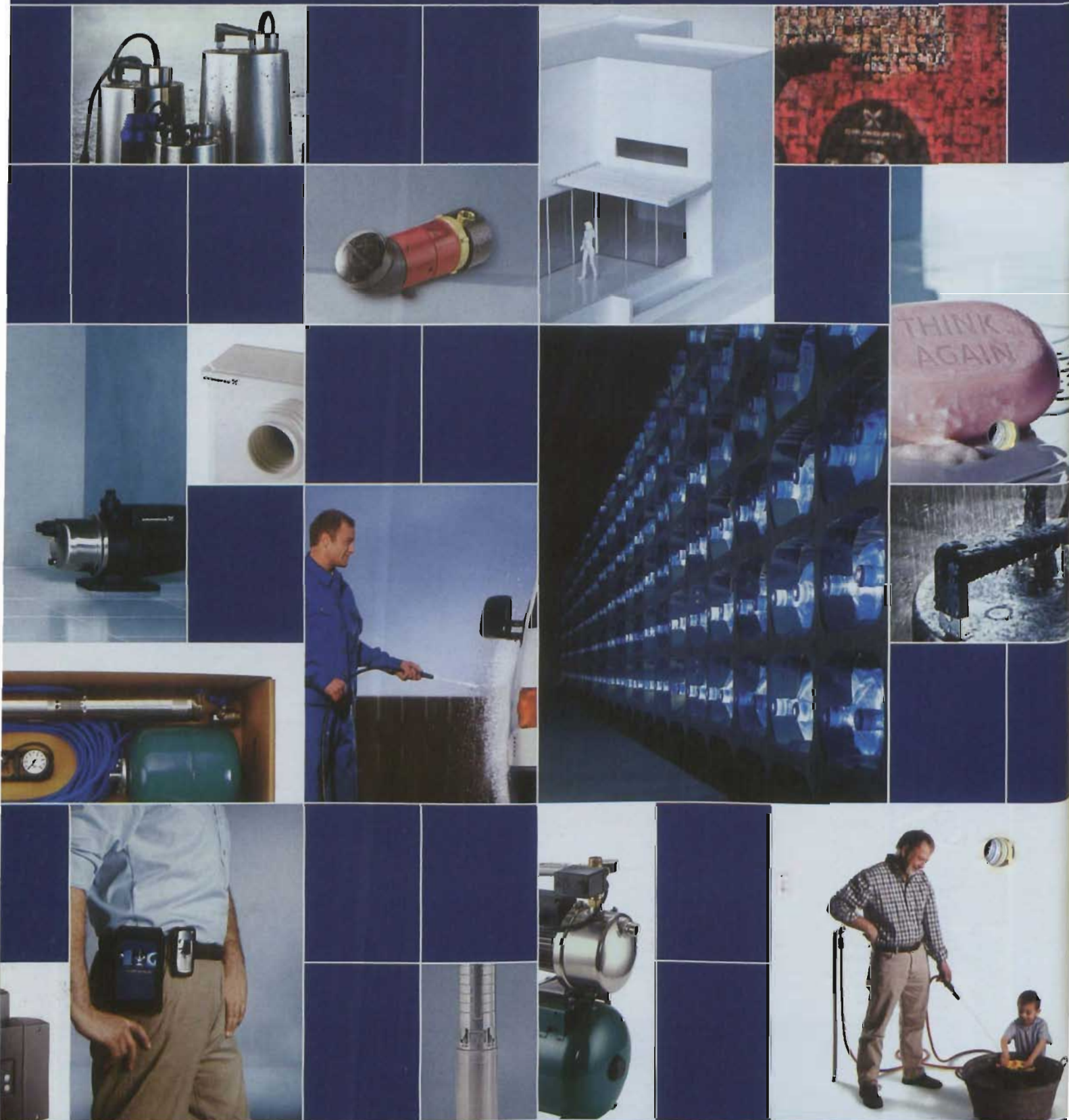
Founded in 1917, Roca initially engaged in the production of cast iron radiators before expanding into cast iron baths and vitreous china. Baths range from the roll top cast iron Elliptico to the hi-tech Karmine which includes spa, whirlpool and music therapy.

Roca also introduced stunning minimalist Atai brassware as well as the new Aquatech and Aquakit. Other landmarks in the expansion of Roca in the bathroom market were followed later by the air conditioning and floor and wall tile products.

Design and quality are paramount for Roca, which makes the company a European symbol of style, quality and reliability.



GRUNDFOS PUMPS FOR DOMESTIC APPLICATIONS



Grundfos (Ireland) Ltd, Unit 34 Stillorgan Industrial Park, Blackrock, Co Dublin.

Tel: 01 - 295 4926 Fax: 01 - 295 4739

email: gbarry@grundfos.com Website: www.grundfos.com

Arcon Bathroom Concepts

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IRISH METAL INDUSTRIES

Irish Metal Industries (IMI) supplies 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 tubes are manufactured to the stringent requirements of EN:1057 and IMI is licensed to engrave them with the coveted Irish Standard Mark which is the registered mark of the National Standards Authority in Ireland. There is also a unique 25-year guarantee against manufacturing defect.

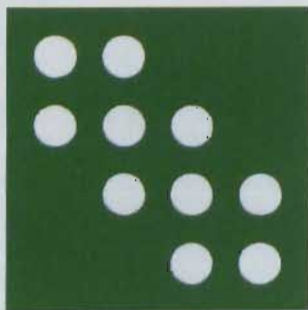


GRUNDFOS

With an annual production of 10 million pump units, Grundfos is one of the world's leading pump manufacturers. Circulator pumps (UP), submersible pumps (SP), and centrifugal pumps (CR) are the three major product groups. Today, Grundfos is the world's largest manufacturer of circulator pumps, covering approximately 50% of the world market. In addition to pumps, Grundfos manufactures electric motors for the pumps and has a considerable production of electric motors for separate merchandising. Furthermore, Grundfos develops and sells state-of-the-art electronics for controls for pumps and other systems.



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.

IMI
A subsidiary of IMI plc.

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DANFOSS

Danfoss is Denmark's largest industrial Group with annual sales of more than €2 billion and approximately 16,600 employees.

It is a customer-oriented world-wide supplier of technical products, services and solutions within the area of energy saving, food preservation, productivity, improved comfort and environmental improvements. Specific market segments covered include refrigeration and air conditioning, industrial controls, heating and water, and motion controls.

Danfoss is a global enterprise with a wholly-owned Irish operation, with a reputation for using advanced technology in products and processes and for awareness of environmental problems. It seeks to obtain its goals with a minimal consumption of raw materials and energy, least possible impact on its surroundings, and the most efficient exploitation of resources. All Danfoss factories are, or will be, certified according to ISO 14001. Furthermore, several factories in the EU are approved under the Eco Management and Audit Scheme — EMAS.

BARLO/VEHA/MERRIOTT

Barlo Group plc, originally founded in Clonmel in 1965, is now a pan-European company with manufacturing plants in eight countries. It is Europe's leading manufacturer of round top radiators and also the largest producer of extruded transparent plastic sheet. Barlo Packaging is a key supplier to the Irish dairy and food industry. Barlo's shares are listed on the London and Irish stock exchanges.

The Group — through its panel radiator division — is one of Europe's leading producers of domestic radiators, under the Barlo and Veba brands. The division operates three factories — in Ireland, the UK, and Belgium. Barlo Radiators is also one of the longest established manufacturers in the market, with 35 years of experience.

Merriott Radiators, the Group's commercial radiator division, operates in the specification radiator sector and has its manufacturing facilities in Clonmel.



Coppercraft.

the Phoenix range of pressurised cylinders

Phoenix is an unvented hot water storage system that is connected to a pumped supply of water.

Made of pure copper, all units are suitable for a working pressure of 6 Bar, and are tested to 12 Bar.

For the end user

Phoenix provides much improved hot water flow rate which is particularly beneficial when showering.

Serves multi-bathroom properties.

Balanced hot and cold water supply pressures from Phoenix for effective use of thermostatic mixer valves.

Installation costs are generally lower as Phoenix requires less pipe work than conventional hot water systems.

Rapid re-heat — no waiting for hot water.

All units are fully insulated to keep the water piping hot.



For the specifier

Phoenix eliminates the need for tanks to be sited in the roof space — because it is a pumped system, tanks can be located in garages, outhouses, etc, allowing greater architectural flexibility.

The Phoenix system self contained and can therefore be in a convenient position.

Equally suited to new build or refurbished projects.

For the Installer

There are fewer connections for Phoenix than in conventional systems.

Phoenix comes as a complete package for simple on site installation.



STANDARD TYPES

ESB Gold Shield specification, with 2 off 3kW 240v single-phase immersion heaters, complete with an adjustable thermostat and a high limit stat with manually re-settable energy cut-out.

Indirect, with one hour recovery fixed coil, and 1 off 3kW 240v single phase immersion heater, complete with an adjustable thermostat, and a high limit stat with manually re-settable energy cut-out.

Applications

These units will supply water at pressure to all fixtures including washing machines and dishwashers in apartments, including Duplex apartments. These are not unvented units, and do not require relief valves. They require the use of a twin-impeller **NEGATIVE HEAD** pump.

If a **LOW** pressure system is adequate, then a **FLOW-SWITCH TYPE** pump (with an air switch) is sufficient. The pump is not suitable for washing machines and dishwashers.

Coppercraft.
range of pre-plumbed
combination tanks



Coppercraft Ltd
Kylemore Park West, Dublin 10
Tel: 01 - 626 5146
Fax: 01 - 626 5813
email: info@coppercraft.ie
www.coppercraft.ie

Arcon Bathroom Concepts

POTTERTON MYSON

Generations of heating engineers and end users alike have long associated the Potterton name with top quality, high specification products that are easy to install and are reliable in service. Founded over 150 years ago, and with more than five million boilers installed, Potterton has entered the 21st Century at the forefront of domestic heating technology as part of the UK's largest heating group.

All Potterton products benefit from world class manufacturing skills and one of the largest and most experienced research development teams in the industry. They are designed to be inherently reliable and to meet the most demanding user needs.

Potterton aims to provide the very highest levels of customer satisfaction. In addition, spare parts are also readily available.



Simple Solutions To Bathroom Design

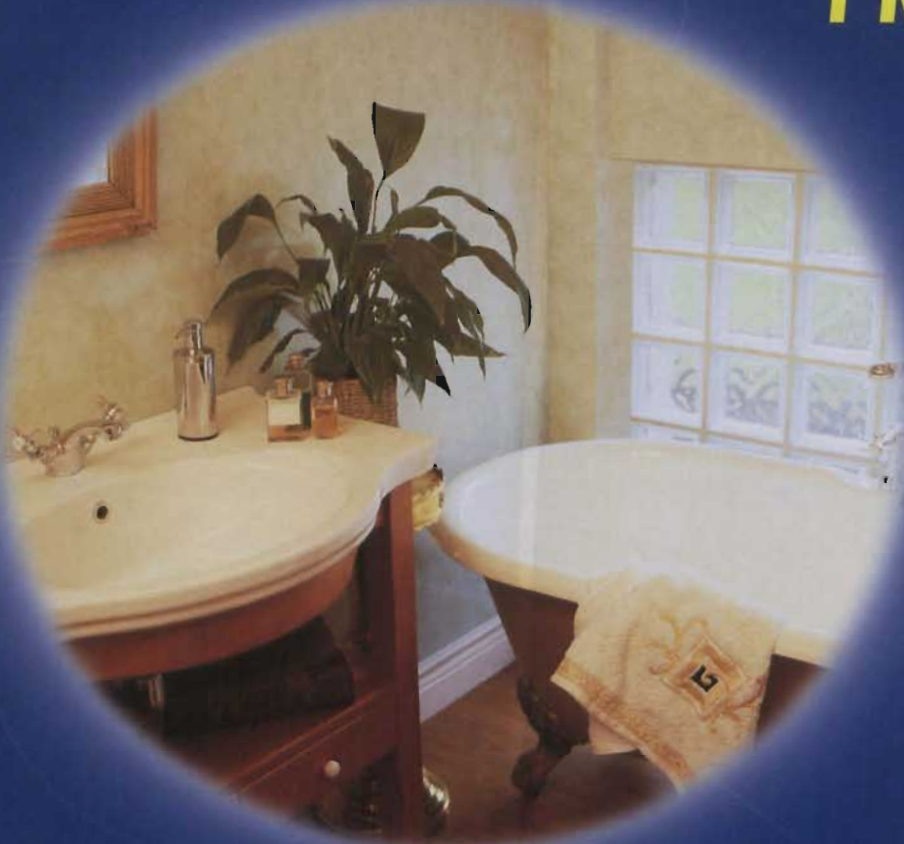


MFP

MFP is a leading producer of quality plastic building products for the construction industry, public utilities and local authorities. Established in 1967, the company is part of the Grafton Group Plc, which employs over 800 people in the Irish building materials and DIY sectors.

Located at Lucan on the outskirts of Dublin, MFP utilises the most up to date technology and equipment and employs a dedicated and skilled workforce and management team. MFP holds registered designs and patents for a number of products and the commitment to quality is evidenced by the fact that it operates a comprehensive quality system to BS 5750 - Part 2 / ISO 9002. In addition to manufacturing a comprehensive range of drainage products, MFP distributes selected ranges from other manufacturers.

SUPERIOR CHOICE FOR PROFESSIONALS



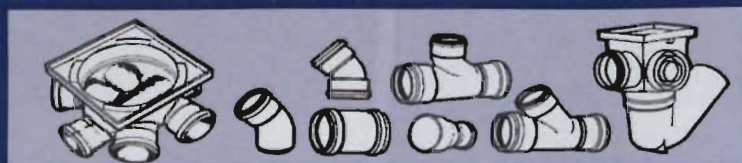
Developed and manufactured right here in Ireland, MFP Drainage Systems are the obvious choice for professionals. As one of the most cost effective, professional systems around, quality and value are guaranteed when you choose MFP.

The comprehensive range of products from MFP conforms to national and international standards.

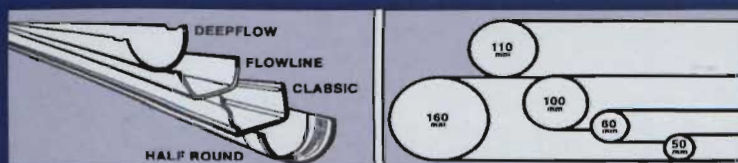
SOIL & WASTE



SEWERAGE



RAINWATER & PVC DUCTING



Leaders in PVCu building products

MFP Sales Ltd

Lucan, Co. Dublin. Tel: 01 630 2500. Fax: 01 628 1119. Website: www.mfp.ie Email: sales@mfp.ie
Dargan Road, Belfast BT3 9JU. Tel: 028 9077 4790. Fax: 028 9077 4716. UK Office. Tel/Fax: +44 (0)1323 412836.

Arcon Bathroom Concepts

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PHD DISTRIBUTION

PHD was formed in 1997 after securing the agencies for some of the worlds' leading manufacturers in the industry – namely, Grohe sanitary products and systems; Cosmic architect designed sanitaryware; and Roca sanitaryware. PHD's foresight in identifying the changing supply pattern within the construction sector when it was still at the embryonic stage gave them a march on their more established competitors. In the space of only four years, it has seen them expand to their present position as one of the most influential distributors in the country.

SANBRA FYFFE

The Instantor® range of compression fittings manufactured by Sanbra Fyffe has maintained a reputation for absolute quality over six decades. Generations of professional and manufacturing customers have found they can rely absolutely on Sanbra Fyffe's products and services. Today, 115 people work in the 8,000 sq m facility in Dublin, producing and distributing compression fittings in brass and DZR, together with gunmetal underground fittings, all of which conform to the most stringent quality standards.

Sanbra Fyffe supplies both part and fully-finished components to manufacturers in accordance with customer specifications. Clients are varied and include manufacturers within the brassware, furniture and engineering product sectors, together with finished components to the gas, electrical, transport and heating service sectors.



COPPERCRAFT

Coppercraft is one of Ireland's longest-established suppliers to the building services sector with reputation for producing innovative water-heating solutions. Initially the company engaged in the design and manufacture of copper water storage cylinders but, over the years, has developed pioneering water-heating concepts which have set new industry benchmarks in terms of energy efficiency and performance outputs. Typical example is the Phoenix range of pressurised cylinders. This is an unvented hot water storage system that is connected to a pumped supply of water. Made of pure copper, all units are suitable for a working pressure of 6-bar, and are tested to 12-bar.

Quality Meets Quality At Adelaide Penthouses



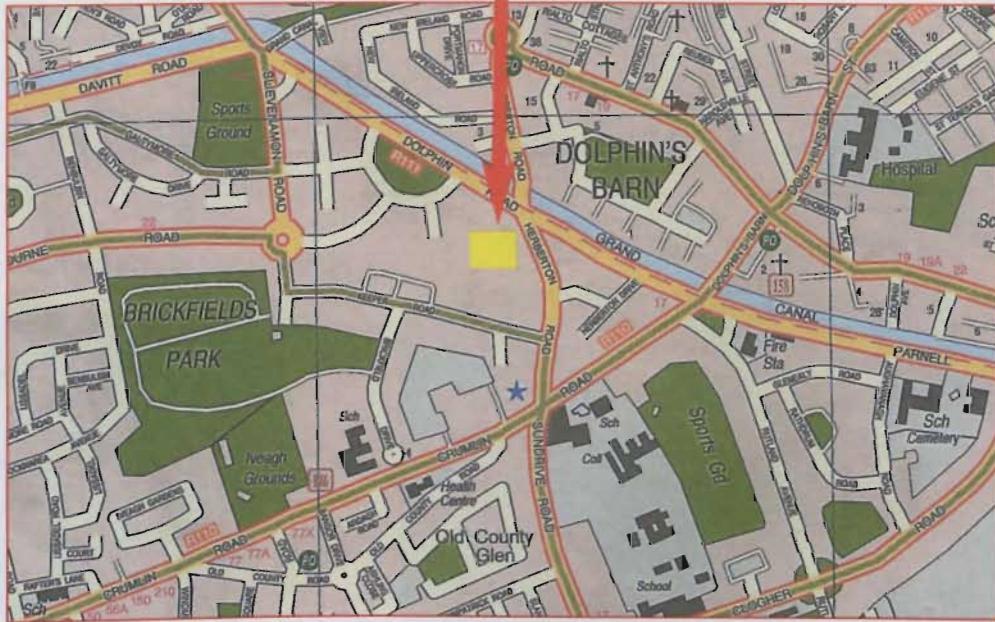
Arcon Bathroom Concepts is all about quality ... quality products, quality designs, quality installations. Not surprisingly, it has been responsible for all manner of prestigious projects. The exclusive Adelaide Penthouses in the heart of Dublin are a typical case in point. Apart from the wash-hand basins, WCs, Jacuzzi bath, shower with full jets, and heated towel rails, ABC also supplied a hot tub for the roof garden!



Finding Us Is As Simple As ...

ABC

ARCON BATHROOM CONCEPTS



6/7 Glenview Industrial Estate, Herberton Road, Rialto, Dublin 12
Tel: 01 - 454 1384 Fax: 01 - 454 4220

Full energy efficiency in central heating relies on both time and temperature control.

Danfoss produces an extensive range of thermostats plus, a market-leading range of time controls. In addition, the product range includes a comprehensive selection of motorised valves, control packs, lockshields, wiring centres, boiler energy controls, towel rail valves and under-floor heating controls.

Combine this with their unsurpassed customer support and it's no surprise Danfoss are the installer's first choice for controls, whatever the application.

Full details of all products are available on request.

Please contact:
Brian F. Maguire - Sales Manager



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



Distributors of

Roca Mohave

Everything in Bathrooms



**BATH
TIME
COSMIC
FRESH**



GROHE



WATER TECHNOLOGY



Cutlery Road, Newbridge, Co Kildare

Tel: 045 - 432 447 Fax: 045 - 432 883

email: info@phd.ie Web: www.phddistribution.com

Gas Engine Powered VRF Systems

Mitsubishi Heavy Industries has had many years of experience in manufacturing GHP systems for the Japanese market, where electricity costs are high, and there are severe restrictions at peak load periods.

GHP systems are installed mainly in 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. The concept developed by Mitsubishi Heavy Industries provides many benefits for the designer, the installer, and reduces running costs for the

client. VRF systems are extensively applied to commercial buildings — the technology is well known, and specialist installers are familiar with the installation requirements and the procedures for commissioning. All of these VRF systems are 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 natural gas-powered 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, ie, similar to the inverter on an electric system. The engine is directly coupled to a Mitsubishi Heavy Industries compressor.

Benefits of GHP

- Low carbon emissions;
- Factory commissioned outdoor unit;
- Indoor units and control systems identical to conventional Mitsubishi Heavy Industries VRF systems;
- Connection of up to 20 indoor units;
- Pipework identical to VRF systems;
- BEMS compatible: Trend, Satchwell.

Cooling & Heating

- High efficiency cooling, up to 56KW;
- Fast warm up, and enhanced performance heating, up to 67KW;
- Continuous performance: Defrost cycle is eliminated;
- Heating performance is maintained in ambient temperature to -15°C.

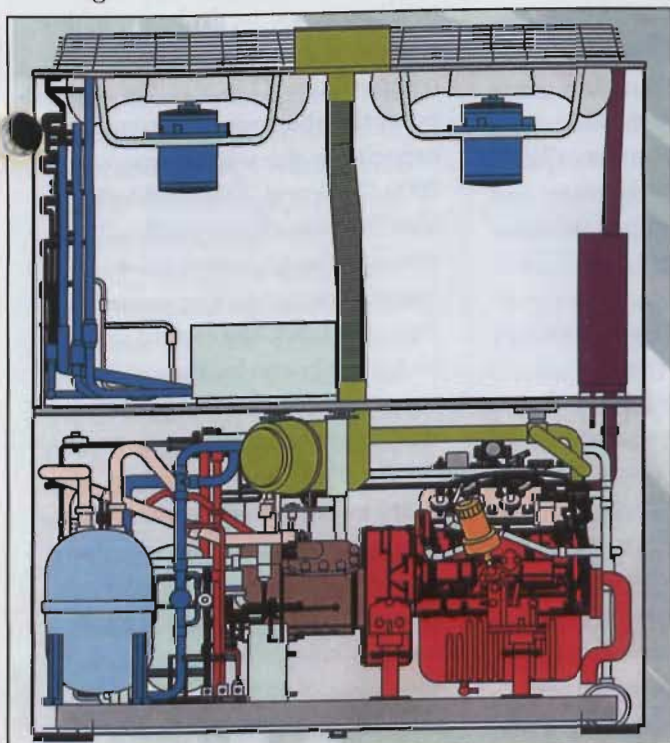
The heat pump performance is enhanced by utilising the waste heat from the engine. The engine coolant is circulated through a heat exchanger to transfer waste heat energy into the refrigerant, thus increasing the coefficient of performance of the heat pump operation. Because there is a constant source 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. The GHP operates in the same way as a VRF 2-pipe System, i.e. all on cooling, or all on heating.

The microcomputer controlled system behaves similarly to an inverter system on electric VRF units. The air intake for the engine is at the top of the unit, and passes downward through the centre of the unit to the engine air filter and inlet manifold. The exhaust gases are discharged upwards, and out of the top of the GHP. A small drain outlet is required for the condensate forming in the exhaust. The drain water is passed through a "scrubber" before exiting the unit. A large reservoir of oil is included to allow for prolonged operation without topping up.

The 'fuzzy-logic' control, which combines all the data from the indoor units and outdoor unit, constantly monitors the performance of the engine and the refrigeration system, in order to maximise performance, efficiency and internal comfort levels.

The outdoor unit has a 7-segment 6-digit display for ease of component and system monitoring, and for fault diagnosis. Contact: Michael Clancy, 3D Air Sales Ireland. Tel: 01 - 462 7570; email: micclan1@eircom.net



Schematic of gas engine powered VRF system



Electricity — What Cost Competition?

A Commercial Viewpoint



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

In the January 2002 issue of *BSNews* David Jacobs looked at how the electricity market was to be deregulated. This article takes a "warts and all" look at how the first three years of the market have fared. An abridged version appeared recently in the *Irish Independent*.

At the commencement of deregulation of the electricity market EU energy costs were more than 35% above those pertaining in the USA. This factor was one of the primary drivers of deregulation. Deregulation became a fact of life in February 2000 when, under Phase I of the process, approximately 28% of the

market, by capacity, was deregulated. This applied to approximately 400 of the largest of the 1.63 million consumers. Phase II of deregulation took place in February 2002 and opened 40% of the market to approximately 1,600 or 1 in every 1000 consumers. The entire green, (environmentally friendly) energy market was opened 100% to competition in the first instance.

Since the start of deregulation there have been two major price increases, claimed to average 8.6% and 9.85% respectively across the entire market. The claimed averages for medium-sized commercial operations are 13% and 8.4%. These averages conceal wide variations. We estimated, for example, that the claimed initial increase of 13% for medium-sized businesses was closer to 17%. In limited cases increases as high as 30%

and greater were found. The CER undertook to publish details of the variations but in fact it did not do so and, therefore, these figures are based on our own experience and calculations. Further increases can be expected at the end of this year. As a means of reducing energy costs competition has not, thus far, been a conspicuous success.

Given issues such as the collapse of Enron and blackouts in California, the American experience is one that we would hardly wish to emulate. Such happenings however are not beyond the bounds of possibility. In preparation for deregulation a moratorium was imposed on the construction of new generating capacity by ESB to allow scope for independents to enter the market and create competition. This resulted in a potential shortage of generating capacity in the winter seasons 2000/2001 and 2001/2002. This shortfall was made good only through the importation of temporary generating capacity, from the USA, the cost of which had to be borne by the consumer. Had it not been for the slowdown in the growth of the economy and the failure of a number of planned server farms to materialise then the shortfall would have been far greater. At present generator capacity is compatible with demand. However, a deficit of 150MW in 2003/04 and 300MW in 2004/05 is predicted and this will require immediate remedial action to

alleviate.

Although events in the UK have been less dramatic than those in the USA, the experience of deregulation has also been less than entirely satisfactory. Independent power producers have concentrated on achieving market share and a customer base to the extent that their billing systems were incapable of issuing monthly bills for prolonged periods. In the domestic sector many consumers switched to higher-priced suppliers without any level of awareness. Across the market consumers have been reverting to their original suppliers.

Since green energy was the first to come to market we initially sought alternative supplies, on a pilot basis for about 60 accounts. We received proposals for only five of these accounts. Offers were unobtainable for the remaining sites. For about half the accounts for which we did receive quotes we estimated that greater savings could be achieved through a tariff change which was implemented. The remaining sites were all small users and savings would have been of the order of €100 per site per 2-monthly billing period. Had green energy suppliers been more open about their interest lying primarily in small commercial accounts on the General Purpose tariff only, then all parties concerned could have been saved much abortive work. Today, green energy suppliers' primary interests lie with the General Purpose tariff consumer preferably, or with the General Purpose Night Saver tariff consumer using not more than about 10% night-time electricity and around 8,000 kWh per 2-monthly billing

period. This will be equivalent to a 2-monthly bill of the order of €1,000.

Of approximately 45 licensed suppliers about four are supplying the green energy market in significant volume and three are supplying brown, (non-environmentally friendly) energy. Availability has transpired to be an extremely stop/go experience depending on the timing of the various VIPP (Virtual Independent Power Producer) auctions by the CER. Until recently there has been little significant volume of real independently-produced brown power. The market was supplied largely from power produced by ESB or purchased in Northern Ireland and delivered over the interconnector and auctioned by the CER on a contract basis for periods up to 12 months. The most recent VIPP auction was in October 2002 and we sought competitive tenders from the three major IPPs, (Independent Power Producers), at this time for 16 eligible sites. Of the three suppliers one declined to submit a tender, one was not in a position to tender due to lack of capacity, its VIPP bid having been disallowed, and one submitted a tender for 15 sites. This claimed to offer discounts, varying by location, on the Public Energy Supplier tariffs. On the majority of sites the claimed discount was 1.4% with up to 4.7% on five selected sites. The claimed figures could not be verified and were subsequently proven to be in error. The real discounts offered were definitely found to be somewhat lower than those claimed. Negotiations took place over a number of days. However, capacity was sold out before the real level of discounts

could be clarified and the offers were effectively withdrawn. In the light of annual increases of the order referred to above, the process has been more than disappointing.

A further extension of deregulation to 56% of the market in February 2004 and 100% in February 2005 has recently been announced by the Minister for Communications, Marine and National Resources. IPPs are now supplying approximately 30% of the market, at a modest discount, to a small number of the largest of consumers. They have the scope, but not the capacity, to almost double this. It is a sellers market and it is not immediately apparent how further demand for independently-produced power is going to be met.

There has been some consideration of relaunching the last VIPP auction process, however to date no definite decision has been taken. Since this product expires at the end of December, its availability is becoming increasingly less likely. It appears as though the next availability of "Independently Produced Power" will be the beginning of 2004.

Without in any sense being an apologist for ESB, which clearly requires control and the elimination of inefficient practices, in the headlong rush to promote competition, for its own sake, might we have lost sight of the size of the market. Low prices demand a low margin and high volume. Might it not be just possible that the optimum number of power producers to satisfy the market in the most efficient manner and at the least cost might be one?

American Standard Says Thank You

In its first formal function as American Standard Plumbing (Ireland), Sheila Kilbride and her colleagues recently hosted an exciting product launch to introduce its new bathroom suites and brassware ranges. These include White & Silver by David Chipperfield and Borma Brassware from Ideal; and the new Halo, Accolade and Sandringham ranges from Armitage Shanks.

However, the occasion was also meant as a "thank you" to the company's many and varied customers, approximately 120 of whom attended to participate in the Ocean's Eleven Casino Evening.

As the accompanying photographs clearly illustrate, it was a very enjoyable and fun-filled occasion.



Liam Oonan with Tom McNally; Sheila Kilbride; Roger Cooper and Michael Ganley



Eimear O'Neill with Patricia Hurst; Catherine Tracey; Brunella Stefaneli and Orla Maher



Gerry Fitzsimons with Mark Mulville; Sheila Kilbride; David Blaides and Simon Hopkins



Sheila Kilbride with Patrick Quigley; Dermot Browne; Roger Cooper and Ecardo Baader

Air Conditioning After Care & The Environment

For any air conditioning system to give its best and most efficient performance, day by day, year by year, requires attentive after-care. The best form of after-care is a maintenance contract supplied by a reputable company employing qualified air conditioning engineers.

These days everyone has a "duty of care" to the environment. There is now very strict legislation with respect to the use, handling, and containment of refrigerant in air conditioning systems.

A professional air conditioning engineer has all the necessary tools, methods and expertise to take care of your system and to comply with any legislation which undoubtedly will emerge in future.

An engineers daily work involves many different manufacturers' systems. He develops a keen sense in diagnosing potential problems through a broad range of systems. It's more common now for an engineer to interrogate the controls system to analyse and

rectify problems rather than the more traditional mechanical methods of fault diagnosis.

Existing systems that have operated for several years may now be using "illegal" or phased out refrigerant. There are choices for the equipment owner, and it's the duty of a professional engineer to guide the owner through the various options available.

A trained and competent service engineer will have the knowledge and experience to help you make a decision that is both economically and environmentally sound.

So what else makes aftercare so important? Lack of maintenance of any air conditioning system can mean it uses more power.

One of the major causes of global warming is CO₂ that is produced in the burning of fossil fuels at power stations to produce electricity. Increased use of electricity in an inefficient air conditioning system not only increases your fuel bill, it can indirectly add to the problem of global



The best form of after-care is a maintenance contract provided by a reputable company employing fully-qualified air conditioning engineers

warming.

Quality air conditioning systems are very reliable machines, but outside influences can have an adverse effect that may take some time to become apparent. Summer is not the time to find out that your air conditioning system isn't working ... a year-round, preventative maintenance program will provide your system with the maximum potential to operate trouble-free.

Your system may have grown in size and complexity over the years and here your air conditioning engineer can recommend electronic plant managers that can optimise the operation of your equipment, providing you with energy savings as well as useful, operational diagnostic information. Tailored maintenance contracts can free your

facilities manager to concentrate on other matters.

Trane Ireland has a team of qualified technicians ready to help and provide all the products and services you require to minimise downtime, "future-proof" equipment and make air conditioning systems environmentally compliant.

Short term cost-cutting on maintenance enhances the balance sheets, but long term can lead to frustration, increased running costs, high variable costs on call out, and indirectly have an adverse effect on the environment.

Contact: Finbarr McNamara, Trane Ireland Limited.
Tel: 01 - 460 6030;
e-mail: Finbarr_McNamara@trane.com

'Europak' Fully Packaged Heat Transfer Unit

While Eurofluid Handling systems is a relatively small company, it has a wealth of in-house experience and technical know-how. Moreover, through its principal trading partners — Sondex, Grundfos and ACV — it has instant access to the enormous resources these multi-national corporations represent.

This is especially true in respect of Eurofluids' Europak fully-packaged heating transfer unit. This unique product is supplied complete with a Sondex gasketed plate heat exchanger capable of recovering the contents of a buffer vessel within a specified time period when supplied with primary boiler water. Boiler load available — up to 1 megawatt.

Europak comes complete with the following:

- Grundfos twin head in-line primary pumpset;
- Grundfos single in-line bronze circulator type;
- 3-port lift-and-lay motorised valve with control sensor fitted to buffer return line;
- All isolating gate valves and non-return valves;
- Fully pre-piped and pre-wired;
- Fully-automatic control panel, c/w digital controller, run/trip pump

and power-on lamps; — Panel-mounted digital temperature indication.

The completely packaged unit is mounted on a common baseframe, primed, painted and tested prior to despatch.

As for the Sondex heat exchangers themselves, these are world-class, highly-compact, high-performance heat exchangers which are based on the corrugated plate concept. By combining various numbers of high-precision, standardised plate designs into complete, extremely-compact units with various connection configurations and sealing techniques (gaskets, brazing, glue, welding etc), Sondex achieves almost infinite flexibility to meet the needs of each individual customer.

The construction of the inlet part makes a perfect distribution of the liquids across the heating part. The inlet part is increased and supplied with grooves preventing "dead spots" which may cause the growth of bacteria in the plate heat exchanger. The inlet with grooves secures a strong inlet part with a minimum of contact points.

The inlets are constructed with a leakage drainage zone fulfilling the 3A specifications.

The plate pattern is available in two designs

with different angle sizes giving high respectively low turbulent flow.

Combining these in a plate pack, an optimal composition can be calculated.

In order to strengthen the gasket groove Sondex "sonder flex line" is supplied with deep speed-edged grooves giving perfect hold of the gasket. This means a long durability for gaskets as well as for plates.

The gasket is placed in the total protected gasket groove. This construction secures the elasticity of the gasket, even after long time of assembling. The new generation of Sondex plate heat exchangers is developed with the glueless "Sondex Lock" gasket. This is fixed by strong rubber buttons which, contrary to most glueless gaskets of today, really fix the gasket in the groove.

The economical advantages are clear: performance optimised to

a particular application, combined with the use of standardised parts and manufacturing procedures, and amazingly-compact design.

Sondex's continuous research and development work is customer-driven, designed to anticipate customer requirements and exceed their expectations. The bottom line for Sondex is to provide tailor-made solutions in a cost-effective manner, using standardised components.

Sondex heat exchangers are typically up to just one-tenth the size of conventional shell-and-tube exchangers for any given performance rating. That means correspondingly less heat transfer medium, smaller pumps; less piping; and less energy consumption.

Eurofluid Handling Systems will devise a customised solution, whether the request is on HVAC or industrial applications.

Contact: Bernard Costello, EHS.
Tel: 01 - 450 3884;
Fax: 01 - 450 7634;
email: eurofluid@tinet.ie



Examples from the extensive Sondex range distributed by Eurofluid



SONDEX

World of Heat Exchangers



By means of technological innovation SONDEX has developed and designed a new generation of plate heat exchangers and freshwater generators.

With a wide range of plate heat exchangers SONDEX has got the optional technical solution for any possible task.

Our product range for freshwater generators covers capacities from 1-1000 tons per 24 hours.

Brazed Plate Heat Exchanger

- District heating, heating and ventilation
- Solar heating and airconditioning units
- Heating pumps and heat recovering units
- Hydraulic and fuel oil units



EHS
Eurofluid Handling Systems

Unit 12, The Westway Centre, Ballymount Avenue, Dublin 12.
Tel: 01 - 450 3884/460 0352/460 0353; Fax: 01 - 450 7634;
Email: eurofluid@tinet.ie

The ACV Tank-in-Tank and Delta Concepts

ACV International has been making boilers and domestic hot water products for more than 75 years. Increasingly, large-scale applications have become a speciality. Wherever hot water is needed and reliability is paramount, ACV is the answer.

Over the years ACV has been responsible for quite a number of inventive and innovative industry "firsts", the most notable being the Delta and Tank-in-Tank concepts.

DELTA

The "Delta" was conceived in 1974 and is, in effect, a domestic hot water (DHW) generator which is also capable of providing central heating. It operates equally well with gas or oil firing, and is available over a wide range of outputs.

The ACV-developed Delta is probably the first appliance to put the accent on domestic hot water generation. Its concept is the complete opposite to the traditional system

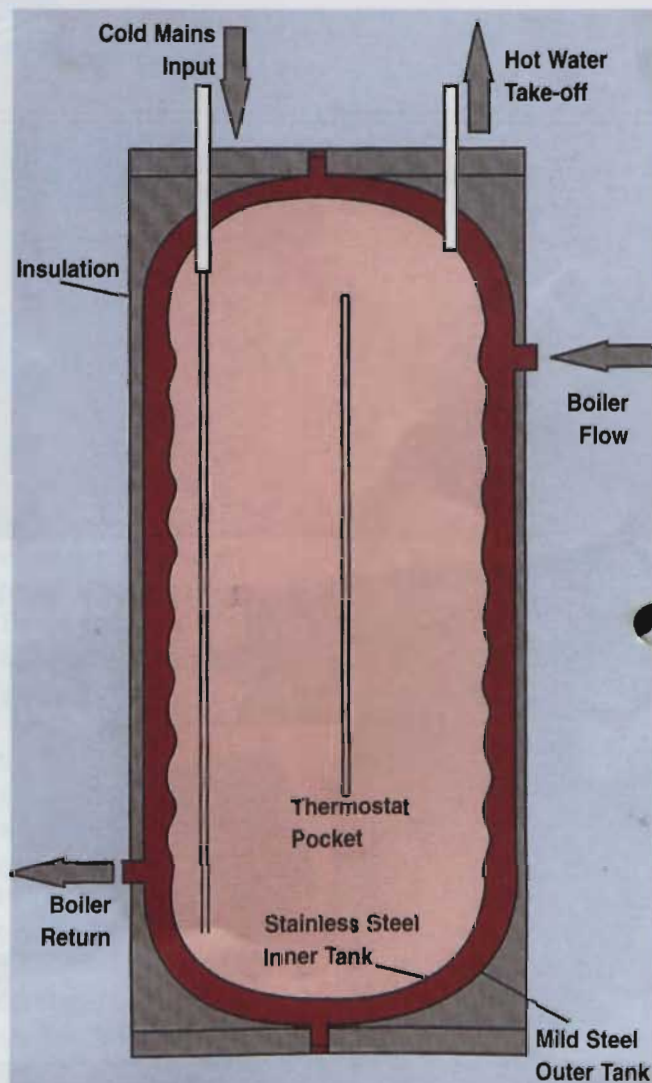
where the cylinder is simply considered to be an accessory of the boiler. The Delta is nothing but a hot water generator which has solved the problems associated with lime deposition by introducing a primary circuit. From this it was only one step to use it as a boiler. An extensive model choice is now available.

A typical example is the Heat Master dual-function direct-fired water heater ... and boiler.

TANK-IN-TANK

The name 'Tank-in-Tank' was coined at the beginning of the 1980s to describe a type of tank which could not be classified either as a cylinder with a coil, or as a twin-wall tank.

The difference between ACV tanks (cylinders) and those with coils is clear, because in the ACV tank the primary fluid heats the domestic hot water (DHW) from the outside in, while the others heat from the inside out.



The decision to use stainless steel for the manufacture of the Tank-In-Tanks was made because of its well-established reliability over other materials. It is stable at elevated temperatures, which is not always the case for cylinders manufactured from mild steel and protected by a coating.

ACV tanks are capable of storing domestic hot water at elevated temperatures of up to 85°C.

Applications for the ACV Tank-In-Tank principle are widespread and include district heating schemes, solar energy systems and even connected to a heat pump.

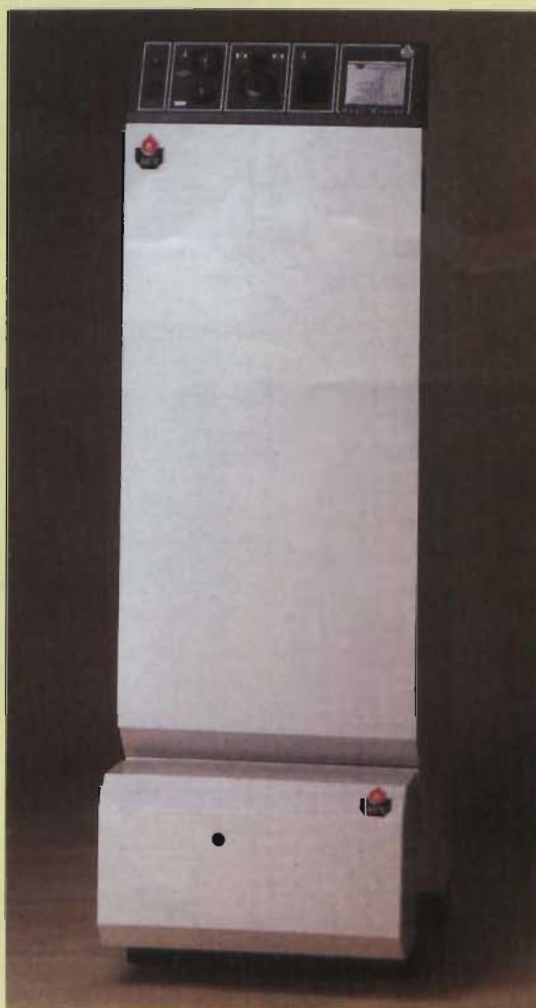
Contact

Bernard Costelloe, Eurofluid Handling Systems.
 Tel: 01 - 460 0352; Fax: 01 - 450 7634;
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**Tank-in-Tank
&
Delta**

**Unique water
heating
concepts**



**Direct fired water heater ... and boiler
the dual function HEAT MASTER
from ACV**

CONTACT

EHS
Eurofluid Handling Systems

**Unit 12, The Westway Centre,
Ballymount Avenue, Dublin 12.
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Fax: 01 - 450 7634**

Eurofluid Handling Systems Supply GMS Thermal Products

GMS Thermal Products design and manufacture a comprehensive range of quality products for the building services and process industries. Years of experience and commitment to quality allow GMS to service all aspects of water heating,



GMS dosing pot from Eurofluid Handling Systems

heat recovery and pressurisation.

Using its extensive expertise, GMS can work in partnership with a broad spectrum of clients to supply standard or bespoke equipment for installations in commercial buildings such as hotels, hospitals, prisons, military barracks, schools, sports centres, swimming pools, and offices and to the process industries such as dairies, breweries, textile processors, chemical plants and other major users of energy.

Through Eurofluid GMS also offers a replacement service for many types of storage and non storage calorifiers and heat



GMS shell and tube heat exchanger from Eurofluid Handling Systems

exchangers, including re-tubing or new tube bundles, spares and ancillaries.

GMS products are installed in many prestigious projects throughout the world. The technical support team provides advice on product application, sizing and suitability and, together with Eurofluid personnel, is available to assist at all stages of design and procurement.

GMS has a continual

programme of research and development of innovative products for the building services industry. A comprehensive catalogue providing an overview of the main products is available from Eurofluid Handling Systems.

Contact: Bernard Costelloe, Eurofluid Handling Systems.
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email:

eurofluid@eircom.net



Strict quality control is applied throughout the manufacturing process

GMS

CALORIFIERS HEAT EXCHANGERS PRESSURISATION UNITS

Eurofluid Handling Systems – working in partnership with GMS Thermal Products – can provide all manner of water heating, heat recovery, and pressurisation solutions from a vast range of standard or bespoke equipment. Applications catered for include offices, hotels, hospitals, schools, sports centres, swimming pools in the commercial sector; and breweries, dairies, chemical plants, and other major users of energy in the process sector.



Shell & Tube Heat Exchanger



Electric Storage Calorifier



Condensate Recovery Unit



Packaged Steam Plate Heat Exchanger

EHS

Eurofluid Handling Systems

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Cooling Technology — Does Gas Hold the Answer?

Is the introduction of GHP in Ireland just jumping on the green bandwagon or does gas offer a real alternative for today's air conditioning market?

Since the oil crisis in the late 'seventies which threatened to undermine our way of life the world over, there has been enough written about alternative power sources to fuel many a furnace, not to mention the odd heated debate.

This was a more pressing issue in some areas than others and perhaps nowhere more than Tokyo. In 1980, with a population of around 20 million mostly housed in high-rise accommodation, the city was in danger of running out of power as demand on the Japanese national grid stretched toward breaking point.

With some sense of urgency the Tokyo Gas Company commissioned Sanyo to develop a pilot Gas Heat Pump unit (GHP) and, for the first time, bring to reality an alternative to electrically-powered air conditioning systems.

The following year the Japanese government's Gas

Cooling Technology project was launched which saw Sanyo and major gas companies joining forces to bring the first ever GHP, a 15HP model, to the Japanese market in 1985. Within two years two other manufacturers got on board and now over 44% of Japan's multi split heat pump market is gas powered.

Is it possible that gas will transform the Irish landscape in a similar way? With over 1,000 VRF systems sold each year and numerous other systems, there is certainly great potential if the benefits prove persuasive enough. Barry Hennessy, Sales Manager at the Ireland arm of Sanyo, is confident that they are.

"Until now Europe has not needed a gas-powered alternative but we are fast becoming more aware of environmental issues, particularly in the light of the Kyoto agreement, and leaders in our industry have a responsibility to respond.

Sanyo will bring its 2-pipe (8,10,13,16,20hp) J2 series to the Irish market this coming Autumn.



Sanyo leads in Japan with a 38.6% market share, ahead of Yanmar (part of Yamaha group), and Aisin (part of the Toyota group), MHI and Daikin.

"Environmentally, the arguments for GHP are clear," Barry explains. "Gas is a natural resource, emitting less of the greenhouse gas CO₂ and delivering far greater efficiency. At the end of the day you can't argue with the figures."

According to Sanyo, GHP requires one tenth of the electrical power that an electric heat pump consumes and offers cost saving of 48% (see Figure 1).

The GHP outdoor unit requires only a single-phase power

supply — a fact that promises to work in its favour when it comes to achieving high penetration levels here. Traditional VRF systems require a 3-phase supply which is only available in around 60% of Irish business properties. Meanwhile 80% have a mains gas connection. Even the remaining 20% are not excluded as the system also operates on bottled propane and butane.

With GHP the engine adds heat input so start-up times in heating mode are considerably shorter and 100% heating capacity is available at -15°C. Also, there is no need for a defrost cycle so operating conditions are

Figure 1

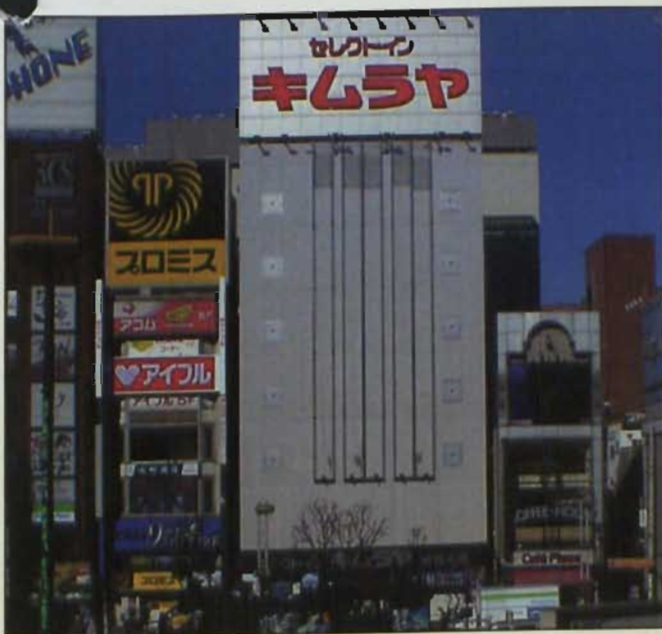
Comparison based upon following criteria: (Ballymount Estate, Dublin)

Gas = 2.815c per kw/hr (day time use)

Electricity = 12.71c per kw/hr (day time use)

	20hp GHP	20hp VRF
Cooling Mode COP	1.25	2.6
Heating Mode COP	1.41	3.2
	+ 1.18 kw 1phase/hr for fan motors	
Cooling capacity 56kw		
Input	56/1.25 COP = 44.8kw/h x cost 2.815c = 126.11c	56/2.6 COP = 21.54kw/h x cost
Fans	1.18 kw x cost 12.71c = 14.99c	12.71c =
Total	126.11c + 14.99c = 141.10c/hr (49.8% saving*)	273.77c/hr
Heating capacity 67kw		
Input	67/1.41 COP = 47.51 kw/h x cost 2.815c = 133.74c	67/3.2 = 20.9kw/h x cost 12.71c =
Fan	1.18kw x cost 12.71c = 14.99c	
Total	133.74c + 14.99c = 148.73c/hr (44% saving*)	265.63 c/hr
	* based on 50/50 heating/cooling use GHP delivers savings of 46.9%	

Please note: This calculation excludes defrost periods which, if included, would increase the cost of the electric VRF.



maintained. Like any gas appliance, connections to the supply should be checked annually but, with service intervals now set at 10,000 hours, maintenance is another area where gas wins out.

Of course GHP product development has not stood still for Sanyo since 1985. Like VRF, the refrigerant system has developed through R22 to R407C, efficiency has improved

phenomenally with COP increasing from 0.94 to today's industry leading 1.33, and the sound levels of the outdoor units have dropped from 60 to 56 dba, making the J2 series the quietest ever available.

With all this in its favour it remains to be seen whether natural resistance to change will prove a barrier to GHP. Barry thinks not, pointing out that apart from the power supply, the technology is exactly the same as traditional VRF systems, in Sanyo's case even connecting to its standard range of indoor units.

Each Sanyo GHP outdoor unit can connect up to 24 indoor units with extended pipe runs of up to 120m to the furthest. A common controls protocol enables them to be included within the same network as electric ECO-Multi and SPW split systems and integrated into many building management systems.

It seems gas could prove to be the air conditioning industry's answer when it comes to balancing political pressure for ecological solutions with the customer-led drive for efficiency. One thing is for sure, the industry is watching with interest.

MYSON HEATING CONTROLS GOLF OUTING

Killarney Lakes Glisten for Myson Heating Controls

Despite the typically-erratic summer weather of recent weeks, Myson Heating Controls and their guests were blessed with a beautiful day when they gathered at O'Mahony's Point golf course in Killarney for the annual outing.

There was the usual mix of merchants and installers from throughout the country, including Northern Ireland, with Sean Hanratty and his colleagues hosting them in very generous fashion. Some travelled by road but most of the Dublin contingent were flown down to Farranfore and transported to the course from there.

Those who teed off early had a slight advantage in that the gentle breeze blowing then increased in intensity as the day wore on. Nonetheless, scoring was still excellent with Joe McSweeney, last year's winner, retaining his title with 40pts, playing off 18. Brendan Ryan, playing off 19, came in second with 36pts.

Other winners on the day were:—

- Class 1 — 1st: Ger Malone (11) 34pts;
- 2nd: Dave Cranston (14) 33pts;
- Class 2 — 1st: Paul O'Shaughnessy (21) 33pts;
- 2nd: David Allen (21) 32pts.

After the golf the participants retired to the Hotel Europe for a meal and the presentation of prizes which, in a welcome break from crystal, included DVD players, hi-fi equipment and executive travel luggage. The customary sing-song did not even start 'till the early hours of the morning. When it ended no one really knows ... suffice it to say that all had a ball!



Dave Harris with Paul O'Shaughnessy, Sean Hanratty and John English



Overall winner Joe McSweeney receiving the perpetual trophy which he retained for the second year running from Sean Hanratty



Brendan Ryan, second overall, receiving his prize from Sean Hanratty



Sean Giffney with James Brereton, Larry Fay and Dave Cranston



David Allen, second Class 2, receiving his prize from Sean Hanratty



Ger Malone, winner Class 2, receiving his prize from Sean Hanratty



Obviously enjoying themselves were Ian Huxtable, Graham Allwood and Philip Bassett

Grundfos at St Margaret's

Despite the difficult playing conditions — a typical rainy summer's day! — participants in the annual Grundfos golf outing at St Margaret's Golf Club turned in some fine performances with John Carr of Heavey Kenny in Galway emerging the overall winner. Forty two played golf with the presentation of prizes taking place later in the evening over an excellent meal. Those present comprised a mix of distributors, consultants, installers and environmental wastewater specialists, with four leading Grundfos distributors — Associated Pumps, Eurofluid, HR Holfeld and IPP — sponsoring other major prizes on the day.



Holfeld Day at the Races — Paul Caulfield, Chadwick, receiving his spot prize from Oliver Collier, HR Holfeld, who sponsored the luxury box for a day at the races in Leopardstown



Overall winner John Carr, Heavey Kenny, receiving his prize from Gordon Barry, General Manager, Grundfos



Nearest the Pin — Niall Larrigan, Grundfos, presenting Donal Varian, IIF, with his prize



Class 3 Winner — Dessie Houghton, Houghton & Young, receiving his prize from Kevin Cullinane, Associated Pumps



Class 2 Winner — Joe Warren receiving his prize from Brian Harrison, IPP



Class 1 Winner — Larry Gittens, Bonewater receiving his prize from Stephan Costelloe, Eurofluid Handling Systems



Longest Drive — Pat White, Jones Environmental, receiving his prize from Paul Quinn, Grundfos

Plan Expo Celebrates Silver Jubilee

More than 7,000 visitors are expected to attend the forthcoming Plan Expo exhibition which will take place in Dublin's RDS from Thursday, 6 November through to Saturday, 8 November 2003.

Plan Expo — Ireland's premier showcase for the built environment — is fully endorsed by the Construction Industry Federation (CIF) and the Royal Institute of Architects of Ireland (RIAI). The 2002 event was extremely successful and demonstrated another year of growth in both visitor and exhibitor numbers.

According to Garret Buckley, Joint Managing Director of Expo Exhibitions, this year the company will be aiming to attract 250 exhibitors and more than 7,000 visitors from Ireland and overseas.

"Twenty one years after its inception, Plan Expo has successfully established itself as an extremely important calendar date for the construction industry in Ireland and Expo is committed to ensuring the event continues to grow and improve with age! "The response to last year's exhibition was incredible with over 91%

of visitors saying they would definitely visit again in 2003 and 40% saying they would be placing orders as a result of their visit", said Garret Buckley. "Plan Expo offers the entire industry the opportunity to come together to review developments over the previous year, see what the competition is up to and make plans for the year ahead. Exhibitors come to do business, to make deals and expand their client portfolio, so this really is a must for anyone operating in the construction or related industries".

Although overseas companies have been exhibiting at Plan Expo for many years, last year saw the introduction of a dedicated International Pavilion to showcase innovative new products and services from around the world.

Irish companies are now more international in their outlook, competing for and winning lucrative overseas contracts. This pavilion allows visitors a unique opportunity to catch up on what's happening in other countries.

Invest Northern Ireland will again take a special section at Plan Expo showcasing products and services from Northern Ireland,

emphasising the cross-border nature of the industry in Ireland and emphasising that Plan Expo is much more than just an exhibition. It is a highly-informative, interactive experience for visitors and exhibitors alike. Among the many highlights for 2003 Plan Expo will be hosting the Plan Expo Opus Building Awards, now widely recognised as the most prestigious building awards in Ireland. These awards recognise excellence in design, execution and concept, seeking out architecture that defines the era we live in. The winners of the awards, who last year included O'Mahoney Pike Architects; Healy & Partners; FKL Architects; and Burke-Kennedy Doyle Architects, will feature prominently at the exhibition itself.

The keenly-contested Product of the Show

Awards recognise the innovation and enterprise inherent in the construction industry, acknowledging the best, the most useful and the most imaginative new products on the market.

Short-listed products will be on display in a special section of the 2003 event for decision makers and other parties to view industry in Ireland.

An integral part of the Plan Expo event, the conferences and seminars programme will address a variety of important issues facing the sector.

The 2003 programme will be even more interesting and informative than ever, with crucial areas within the construction industry being covered in detail.

Contact: Stephan Murtagh or Conor Meghen, Expo Exhibitions.
Tel: 01 - 295 8181;
Web: www.expo-events.com.



Pictured reviewing floor plans for Plan Expo 2003 is Stephan Murtagh of Expo Exhibitions, with Marie A. Stamp, Senior Trade Commissioner; His Excellency, Mark J. Moher, Canadian Ambassador to Ireland and Gerry Mongey, Commercial Officer, Canadian Embassy

The Castle

Sponsor: Liberty Air Conditioning

Overall Winner	Liam Stenson	(15)	35 Points
Class 1	1-14		
	1	Brendan Keaveney	(7) 32 Points
	2	Michael Melligan	(12) 30 Points
	3	Michael Morriseey	(8) 29.5 Points
Class 2	15-18		
	1	John Loughlin	(17) 33 Points
	2	Brian Kearney	(16) 30 Points
	3	George Carlton	(15) 30 Points
Class 3	19+		
	1	Padraig Gillen	(20) 33.5 Points
	2	George Larkin	(24) 30 Points
	3	Des O'Gorman	(25) 30 Points
1st Nine		Sean Brady	16 Points
2nd Nine		Terry Maher	17 Points
Visitors		Paul Traynor	(24) 37 Points

BTU Matchplay — 2nd Round Draw

Jim Smith	v	Michael Wyse
John Littlefield	v	John Lavelle
Padraig Gillen	v	Ray Byrne
Brendan Bracken	v	Eamonn Vickers
Sean Smith	v	John Hunter
Michael White	v	Michael Kearney
Sean Brady	v	Bob Daly
Martin McKeon	v	John Doyle



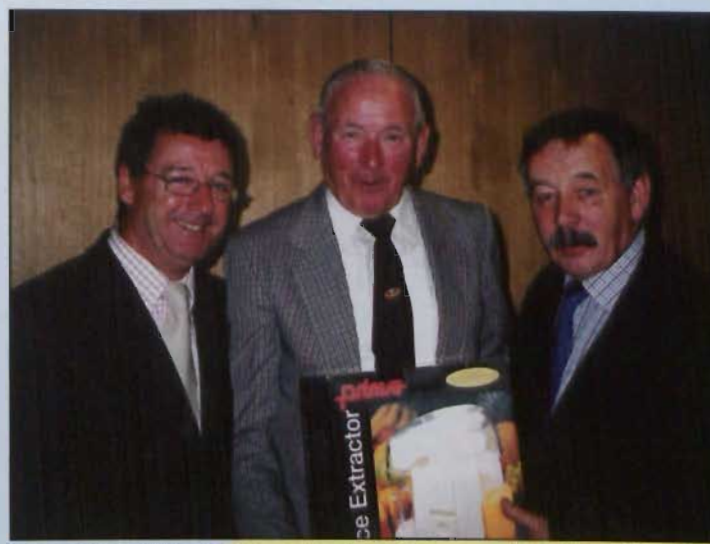
Gerry Tobin, BTU Secretary, with Liam Stenson, Overall Winner and Tim O'Flaherty, sponsor



Gerry Tobin, BTU Secretary, with Brian Kearney, second Class II and Tim O'Flaherty, sponsor



Gerry Tobin, BTU Secretary, with Michael Melligan, second Class I and Tim O'Flaherty, sponsor



Gerry Tobin, BTU Secretary, with Des O'Gorman, third Class III and Tim O'Flaherty, sponsor

Plumb Lines



Heard it on the grapevine ...

BEST WISHES JOHN BROPHY — Congratulations John on your retirement. You have been a long-standing servant of the industry and, while always **ultra-professional** and thorough in your dealings, you still managed to do so in a **friendly**, personable manner. Your many friends will miss the day-to-day business dealings with you but will, no doubt, remain in **regular contact**. I also hear that you are unwell at present. May I, on behalf of all who know you, wish you a speedy return to **good health**.

REFRIGERATION SECTOR SHOWS HOW — While other market segments bemoan the lack of cohesive representation and coordinated activity, the refrigeration sector has once again **shown initiative** by securing further funding for training under the government Skillnets programme. Refrigeration Technology Skillnet is a **dynamic forum** with active participation and support across the entire refrigeration sector. It is the perfect blueprint for how things **should be done**. Other industry segments should note.

NOT JUST A PIPE DREAM — Britain's first **community heating** scheme feeding 3000 apartments at Churchill Gardens Estate, London, is about to get an upgrade so that a further 1000 homes, three schools and a large office complex can be served by the scheme. Architect **Sir Philip Powell** (who died last month) was decades ahead of his time with ideas for cutting pollution when he designed the scheme in 1950. Despite the example of this, and many other similar if somewhat newer examples, such schemes are regarded as mere **pipe dreams** here in Ireland.

HOLMES DOES THE DOUBLE — Colleagues of David Homes, Sales Manager, Alma Engineering Supplies, are busy making him **strong coffee** throughout the day since the recent arrival of his twin daughters, **Molly and Grace**. Congratulations to David and his wife Sandra.

Sanyo DVD Winner This month's Sanyo DVD winner is **Brian McKnight** of John O'Donovan & Associates, Model Farm Road, Cork.

See page 7 for this month's competition.

BSNews Wall Planner — Congratulations Neil Conroy of Brendan Durvin Engineering who was the lucky caller to win the bottle of **champagne** on 18 June. Keep your eyes **peeled** on your *BSNews Wall Planners* ... there are still a number of bottles to be won before the year end.

ABC LAUNCH — Arcon Bathroom Concepts is the latest development at **Tony Callaghan's Arcon**. Both he and fellow ABC Director **Mark Mulville** have put together a magnificent array of quality bathroom products and accessories. See centre pages of

this issue for a special **28-page supplement** on the new company.

25 YEARS AGO TODAY!



It's our very own **Joe Warren**. This was Joe's appointment pic when he joined *BSNews* (then *Irish Heating & Ventilating News*) back in 1978. He still has the **hair and moustache**, albeit if the colour has faded somewhat. Not too sure about the **brooding** good licks ... and the way he might **look at you!** PS: Sorry Joe.

IRELAND SEND JIM NOLAN TO SLEEP



Even **Brian Kerr** admits that Ireland's recent performances have been more dogged and determined than entertaining but really **Jim**, they have not been this bad!

3D Air Sales (Ireland) Ltd,

Unit 8, Greenhills Business Centre,

Greenhills Industrial Estate, Tallaght, Dublin 24.

Tel: 01 - 450 9433 Fax: 01 - 450 9799

email: micclan1@eircom.net www.3dair.co.uk

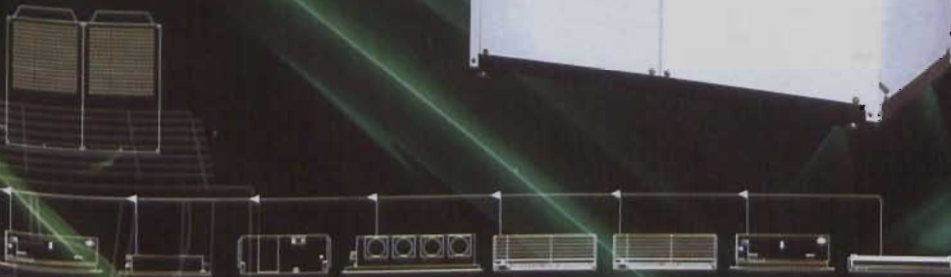
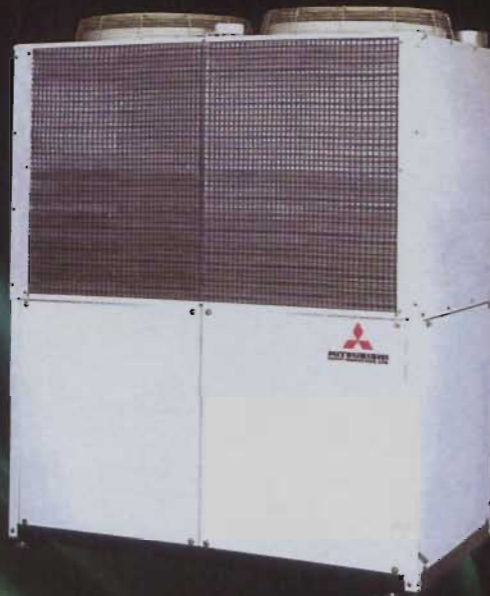


ACR NEWS
PRODUCT DISTRIBUTOR
OF THE YEAR 2003

www.3dair.co.uk

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.



Gems Sensors the "force" in Water & Waste Management



Manotherm Limited

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email: manotherm@eircom.net