BS News
MECHANICAL & ELECTRICAL BUILDING SERVICES

Lowest Tender Costs Clients Dearly

ALSO
Wavin Breakthrough MHI EHPAC Art Cool From Core

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TOSHIBA

Precise capacity control at all conditions
Quiet operation enhances user comfort
Easy installation and maintenance
Low-vibration twin-rotary compressor
Easy installation, with extended pipe length
High heating capacity for use in areas where temperatures fall to -15°C
Designed for use with refrigerant R410A

GT Phelan Ltd, Unit 30, Southern Cross Business Park, Bray, Co. Wicklow
Tel: 01-286 4377  Fax: 01-286 4310
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Daiseikai - a breath of fresh air from Toshiba

The sophisticated, state-of-the-art Daiseikai split system heat pumps from Toshiba combine attractive styling with advanced inverter technology and optimised indoor air quality. They use single inverters for smooth capacity control and perfect comfort conditions. With its exceptional EER levels the Daiseikai launches a new era in air conditioning.

Key features

- Innovative triple-action filtering system for fast removal of pollutants and odours.
- Air ioniser provides optimum relaxed user comfort and enhanced well-being
- Superior EER for lowest energy consumption.
- Innovative DC hybrid inverter technology for precise temperature control
- Elegant design with clean lines - the Daiseikai enhances any room
- Precise capacity control at all conditions
- Quiet operation enhances user comfort
- Easy installation and maintenance
- Low-vibration twin-rotary compressor
- Easy installation, with extended pipe length
- High heating capacity for use in areas where temperatures fall to -15°C
- Designed for use with refrigerant R410A

If you need the best, contact us today.

Zeolite-Plus Filter
Zeolite-3G Filter
absorbs odours

Air ioniser provides optimum relaxed user comfort and enhanced well-being.

Superior EER for lowest energy consumption.

Innovative DC hybrid inverter technology for precise temperature control

Elegant design with clean lines - the Daiseikai enhances any room
OPINION

Lowest Tender Costs Clients Dearly

Awarding contracts solely on the basis of lowest tender is always fraught with danger. Indeed, BSNews readers are probably sick to death of reading comments to that effect on this page. Nonetheless, yet again the point is worth emphasising. Clients are being short-changed by this practice as it inevitably leads to corners being cut.

Quite simply, anyone who can add and has the nous to apply themselves and get accurate market information can cost a job with reasonable accuracy. Against that background, professionals involved in the business can estimate even more accurately from the job specification what a project should cost. Armed with this information, surely it is possible to tell from tender prices submitted which ones need to be verified — and policed if awarded — in respect of ensuring adherence to the project spec.

There is far too much evidence — and not just anecdotal heresy — of situations where the client has been blatantly short-changed. Just recently a reasonably large project was awarded on the basis of a relatively minor sum differential of approximately €5000. However, resolving the problems arising out of the spec compliance shortfall cost the client an additional €60,000 plus in a so-called retrofit operation that should never have been required in the first instance.

Economists are now telling us that the Celtic Tiger has arisen out of its recent slumber and is about to come roaring back. If they are correct — and let’s hope they are — it is imperative that this time ‘round the building services sector does not sell itself short by under-selling the value and quality of the products and services provided.

IN THIS ISSUE

- Trade News & Product Information
- Core AC Revolutionises AC Design With LG Units
- Wavin Breakthrough in Plumbing & Heating Systems
- Property & Facilities Management
- Enhanced High-Performance AC From 3D Air Sales
- Down Your Way ... BSNews Visits Delta in Kilmallock
- REGII Stance Vindicated
- SEBNet — Sustainable Energy In Building Network
- DIT National Skills Competitions
- BSNews Ruby Edition — Reduced Advertisement Rates To Celebrate
- Calorifiers & Heat Exchangers
- Electrical Services Engineering — Wind Energy
- Plumb Lines
New VRF From Panasonic

Panasonic's new R410a VRF range of systems is now available from Walkair in Dublin. With this latest range, a single VRF outdoor unit is capable of providing 135kW of cooling and 150kW of heating. This single outdoor unit can serve up to 40 indoor units, all with individual control in heating or cooling modes.

With the increase in Panasonic's capacity range nothing has been sacrificed. In fact, many things have been improved upon. For instance a single VRF outdoor connected to up to forty indoor units mean only three pipes need to enter the building. This cuts down significantly on installation costs. To make the units more energy-efficient the fan motor is now an invertor controlled DC unit. There have also been significant compressor technology advances.

Space savings are another significant benefit. Some of the outdoor units boast as much as a 50% footprint saving, with most capable of fitting into a standard building lift.

The new VRF outdoor unit compressors operate on a rotational system to average out running hours. They will continue operating even if one of the compressors shuts down due to a fault. In the case of the larger outdoor units, such as the 18 Hp, even if a complete outdoor unit becomes faulty, then the remaining outdoor units are available for emergency use.

Contact: Vincent Mahony, Walkair. Tel: 01 - 456 8070; email: vmahony@walkair.ie
By combining the latest in DC Inverter technology and the energy efficient R410A refrigerant, the new Sanyo range of commercial split systems offer you and your customers less than ever before!

Less power supply problems – all units are single phase supply
Less power surge problems – only 1 amp start current across the range
Less siting problems – complete range of indoor units
Less restrictions – single, twin, triple and quad options
Less refrigerant – systems pre-charged to 30 meters

Less energy usage – running costs are drastically reduced
Less price penalty – the latest technology for the smallest premium
Less lifecycle costs – essential for any business
Less time for payback – capital difference repaid in year one
Less tax liabilities – EEL Category A ensures ECA qualification

Specifically designed for commercial and retail applications. With outdoor unit sizes (3, 4 & 5HP) and 4 indoor types available in six capacities, the choices are endless… Perhaps with Sanyo less is more!

Sanyo Air Conditioners
41 Western Parkway Business Ctr, Ballymount Road, Dublin 12.
T. 01 456 8910  F. 01 450 7227
www.sanyoaircon.com
**Now Powrmatic Blows Hot and Cold!**

Powrmatic, already renowned as a manufacturer of industrial and commercial heating products — including flue systems — has expanded its portfolio to include a brand new range of split air conditioning units suitable for a wide range of commercial installations. Taken together, Powrmatic is now in a unique position to supply the complete heating and cooling solution from a single source.

Commenting on the launch, Sales Manager Phil Magnall said: "The new air conditioning range is an important development for Powrmatic. We're a leading heating manufacturer with an impressive 40-year record, but we're continually reviewing the market to assess our customers' needs. In recent years, we've all noticed a shift in climate conditions, with milder winters and warmer summers. Our customers have been seeking high-quality air conditioning equipment for this market opportunity and now we can provide it, quickly and very economically."

"The new range of air conditioning equipment includes both wall mounted and cassette type units, all of which are suitable for R410A refrigerant. This refrigerant is efficient in terms of cooling but is also very efficient for heating, so only heat pumps offering both functions are available."

"The prices are very competitive and over 1000 units in Powrmatic's Ilminster warehouse help maintain ex-stock availability. All units also come with a 3-year parts and labour warranty".

The company has also appointed Martin Hook as technical consultant and has recently completed CITB training for Powrmatic's internal and external sales team here in Ireland, with an intensive hands-on training programme for service engineers.

Martin's role is to support the product technically and to offer training to customers through a series of specially-developed courses which will commence in August of this year.

Contact: Tony Delaney, Powrmatic. Tel: 01 - 452 1533; email: tonydelaney@powrmaticireland.com

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**Plan Expo 2004 To Be Even Bigger Still**

Plan Expo — which will take place in Dublin's RDS over 4/5/6 November 2004 — is Ireland's premier showcase for the built environment. It is fully endorsed by the Construction Industry Federation (CIF) and the Royal Institute of the Architects of Ireland (RIAI).

According to Garret Buckley, Joint Managing Director of Expo Exhibitions, an estimated 7,000 visitors from Ireland and overseas, comprising key decision-makers within the industry, will attend.

Last year's event was deemed highly-informative with over 97% of visitors saying they would definitely visit the show again. A number of large key construction industry players are already signed up for 2004, reflecting the quality content and genuine commercial opportunity this show offers. A large proportion of exhibitors re-book year after year so space is at a premium.

Among the many high profile brands already signed up are Kingspan, Moy Isover, Marvin Architectural, A Proctor Group, Quality Plastics, Century Homes, Hilti, Lafarge, Griffen Coillte, Canadian Embassy, Geberit, Pilkington Glass, Cadco, Knauf, Aeroboard to name but a few.

Due to the success of last year's 'Innovation and Value for Money in Construction' conference, which took place in the Four Seasons hotel, Expo is organising another conference to kick off this year's event. This time the focus will be on housing.

Among the many highlights at 2004 Plan Expo will be inclusion of the new Opus Design and Construction Awards. The awards scheme is the amalgamation of the Opus Awards and the CIF Construction Excellence Awards, and winning projects will be on display at Plan Expo. Historically, the Opus Awards recognised excellence in design, execution and concept, seeking out architecture that defines the era we live in. The new awards will now honour both architect and contractor, and so taking in all aspects off the project, from initial design to completion.

Other features of the programme include the Plan Expo Product of the Show Awards; the International Pavilion, which will see increased representation from a number of different countries; and a series of seminars and workshops.

Contact: Stephan Murtagh, Expo Exhibitions. Tel: 01 - 295 8181; Mobile: 086 - 260 4397; email: tonydelaney@powrmaticireland.com
Hydrovar Enters The RetroFit Market

Hydrovar — an innovative frequency converter designed by Lowara — is much more than a simple motor speed inverter. It is in fact a microprocessor control device, designed to automatically manage pump performance on the basis of system conditions and requirements.

More precisely, it makes it possible to modulate the pump speed on the basis of the demand for water and follow the system curve for circulating pumps destined for the HVAC market.

Simple to install, Hydrovar does not require special motors: for this reason, it can also be used to make pumping, heating, ventilation and air-conditioning systems more efficient, without any need to change them.

Hydrovar allows significant energy savings to be made because it reduces power consumption in the most important system configurations by adapting pump speed and performance to the exact demand, as certified by TUV.

The energy saving also stems from the fact that Hydrovar automatically regulates flow according to needs, for example on the basis of the system characteristics, and also cuts off the pump immediately when consumption is zero.

The greatest energy savings occur with circulating pumps in closed circuits (HVAC) not only because of the fact that the pump operates at a lower speed in low pressure conditions, but also because it is possible to reduce the pump's head due to the friction loss of pressure in the piping. Hydrovar requires no special motors is quick and simple to install; and requires no changes to the existing piping and electrical systems.

There is also a soft start function which guarantees the absence of additional loads when starting up.

Contact: Adrian Gingell, Lowara Ireland.
Tel: 01 - 452 0266; email: sales-irl@lowara.itind.com
Wavin Trigon — When Conventional Pipe Is Not An Option

Frequently planners and specifiers are faced with installing pipe in areas of contaminated ground where specialist protected barrier pipe is required. Typically, these sites are urban brownfield sites under development where there are known contaminants in the ground.

Wavin has now introduced the Trigon Barrier Pipe System for such sites where the use of conventional plastic pipe products are excluded and where the use of specialist protected barrier products are necessary. Trigon provides safe transportation of potable water in such circumstances.

The Wavin Trigon Barrier pipe is multi-layered and incorporates an aluminium barrier layer. This is sandwiched between two layers of conventional polyethylene which is widely used for the manufacture of potable water pipe systems.

The pipe is available in 25mm and 32mm sizes (27mm & 34mm outside diameters) for use at pressures up to 12.5 bar. Trigon can be installed using conventional open-cut trenching methods. When trenchless methods are being considered, Wavin can provide the technical advice necessary.

Contact: Wavin Ireland
Tel: 01- 802 0200; email: info@wavin.ie

Sanyo At The Energy Show

The recent Energy Show at the RDS proved a great success for Sanyo Air Conditioners whose GHP VRF technology and new ECOi R410a inverter split system attracted a great deal of interest.

Ideally positioned right in front of the main entrance, the show provided visitors with an opportunity to see just how extensive and flexible the Sanyo range is. National Sales Manager, Barry Hennessy, was present throughout the 2-day event and was assisted by Tony Perry, Sanyo’s Technical Manager.

“Although the volume of visitors was not particularly high”, said Barry, “it seemed that the show was really relevant to everyone who attended. There was none of the ‘window shopping’ you often find at exhibitions. Everyone had a genuine reason to be there so it was very worthwhile.

“The Energy Show gave us the ideal opportunity to hammer home our continuing commitment to the Irish Market. The theme of the show was efficiency and energy, and I don’t think anyone was left in any doubt as to Sanyo’s dedication on this front.”

The GHP (Gas Engine Heat Pump) VRF was one technology that seemed to particularly impress visitors and Barry told BSNews that he was pleasantly surprised by the level of interest in this product. There was also keen interest in the new ECOi R410a electric, high COP, VRF system, which has become available only recently.

“Sanyo has dubbed the year 2004 as the year of choice and with these innovative products we are very much keeping to that promise,” concludes Barry.

“It was great to see so many familiar and indeed new faces at the show and the response was way beyond our expectations. We are looking forward to the next show and continuing to develop the Sanyo brand in Ireland.”

Contact: Barry Hennessy, Sanyo Air Conditioners.
Tel: 01 - 456 8910; www.sanyoaircon.com
Daren Lowndes has been appointed Sales Manager of 3D Air Sales (Ireland) Ltd. Daren is widely-known throughout the refrigeration sector, having worked in senior positions with a number of other leading companies before taking up his current post. Managing Director Michael Clancy says that Daren’s appointment strengthens still further the support services the company can now offer and herald’s the beginning of a new sales drive which, when coupled with the innovative products coming on stream from Mitsubishi Heavy Industries, will see increased market share for the brand.

Contact: Daren Lowndes, 3D Air Sales.
Tel: 01 - 462 7570;
email: 086 380 9381.

Mark Heating & Fan Coil Units
Mark Eire of Coolea continues to bring innovative heating and cooling products to the marketplace. Some of the latest introductions are the gas fired wall and ceiling heaters, and the wall and ceiling LPHW fan coil range. Applications include offices, meeting rooms, creches, hotel rooms, banks, retail outlets and car showrooms.

The wall and ceiling heaters operate on natural gas or propane with capacities from 2.5kW to 10kW. Optional infra-red remote control available.

The wall and ceiling fan coil units have built-in control, capacities being - heating: 3.6kW to 16kW; cooling: 1.5kW to 6.9kW.

Full technical details on the entire range are available directly from Mark Eire, along with copies of a full-colour gatefold brochure which gives a brief synopsis of the portfolio.

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

The Mark wall and ceiling LPHW fan coil available from Mark Eire

Believe

1 in every 7 air conditioners sold globally is an LG unit
Put your trust in LG – you won’t regret it.

Core Air Conditioning Tel: 01 - 409 8912
LG Distributor for the Republic of Ireland
LG Portfolio

The LG air conditioning portfolio is all-embracing. It comprises a myriad of permutations and options, with solution for every requirement. Capacities range of 3.5kW to 13kW. Principal product types are as follows:

- Art Cool
- Single Split Wall Mounted
- VRF Multi-V Splits
- Convertible (Ceiling & Floor)
- Ceiling Cassette
- Ceiling Concealed Duct
- Floor Standing
- Window/Wall
- Rooftop Packages

LG Revolutionises AC Design

LG Electronics is one of the world’s leading electronics manufacturers, producing a wide range of air conditioning products, consumer electronics and IT products. It has an established reputation for pioneering industry innovations, with the release of some of the latest technological developments across the whole spectrum of industry categories served. This includes air conditioning products which LG has been manufacturing since 1968.

LG air conditioning products were formally introduced to Ireland last month (see BSNews May 2002) with the appointment of Core Air Conditioning as distributor. Core Managing Director Austin McDermot says LG is the ideal addition to the existing Core portfolio as it is the perfect complement to the brands and ranges already carried.

The full weight of the Core set-up will now be brought to bear on the LG roll-out with newly-appointed Sales Engineer Shane Satell dedicated to the brand. “Despite the level of sophistication of the units, and the advanced features they incorporate, the prices are extremely competitive, offering excellent value-for-money”, says Shane.

The LG range and scope of applications is vast, covering all possible permutations and requirements. It comprises established product types which have set industry standards in the recent past, and new introductions just being released which represent a quantum leap forward in technology, performance and styling. The accompanying details give a brief overview of the range with full details available directly from Shane Satell at Tel: 01 - 409 8912; email: info@coreac.com.
Ceiling Cassettes With Unique Features

The LG ceiling cassette range incorporates features and benefits which are unique. These include a 7-day timer with day-omit facility, and a wired remote control which operates a full set of functions.

Other features include low ambient control as standard; Plasma air purifying system; High head condensate lift pump 700mm; Low noise fan; and additional infra-red controller as standard option.

Art Cool — A Modern Classic

LG's Art Cool range of designer air conditioning products more closely resemble plasma TVs than wall-hung air conditioning products.

That said, underneath the stylised look is some of the most sophisticated air conditioning technology in the world. New 3-dimensional airflow ensures even, all-round coverage, the photo-catalyst deodourising filter removing odours and keeping the air fresh.

Measuring just 6" deep, Art Cool operates on single-phase with some of the lowest sound levels available. With cooling/heating capacities of 3.3Kw to 5.3Kw, it uses refrigerant R-410a. This refrigerant is environmentally-friendly, has superior engineering capabilities, and operates at a pressure 1.5 times that of other refrigerants.

Art Cool is available in two widths - 570mm and 928mm - each one in two colours, blue and wood effect. There is also the Art Cool Mirror unit in one size only.

Nano Plasma Air Purifying System

The Nano Plasma air purifying system developed by LG not only removes microscopic contaminants and dust, but also removes house mites, pollen, and pet fur to help prevent allergic reactions. It also eliminates bad odour with odour-catching particles. The filter can be used over and over again by simply cleaning it using a vacuum cleaner.

Anti-Rust Gold Fin

LG's heat exchanger surfaces are coated with an anti-corrosive, gold on aluminium. This ensures extended life for condenser coils especially useful for seaside locations, near chemical plants or swimming pools.
Grant Vortex 97% Efficiency

The Grant Vortex condensing boiler — designed and manufactured by Grant Engineering of Birr, Co Offaly — is claimed to have a seasonal gross efficiency of up to 97% gross. There are 10 models in the range, covering outputs from 15kW to 36kW. They are suitable for practically all domestic installations, including standard open vented or sealed system options, and are available in kitchen or utility models.

The Grant Vortex boiler has a high quality stainless steel heat exchanger, incorporating Grant’s turbulator baffle system which ensures the ultra-high efficiency and dramatically lower running costs.

Grant Engineering has a significant export market to the UK where it is one of the largest suppliers of oil fired boilers. It employs 180 personnel at the factory and office headquarters in Birr and another 60 at Grant in the UK.

Grant has also produced a new leaflet on oil-fired condensing boilers. This is an area of concern for many who, if truth be told, know very little about condensing boilers and especially oil-fired condensing boilers. Builders, merchants and installers in particular will find it invaluable.

The whole area of training is taken very seriously by Grant who have purpose-designed in-house training centres in the UK and at its Birr headquarters. Just recently their efforts in this respect were acknowledged in the UK with a prestigious Training Initiative of the Year award.

Contact: Joe Conroy, Grant Engineering.
Tel: 0509 20089; email: info@grantengineering.ie

Refrigeration Health & Safety Course

Refrigeration Technology Skillnet has organised a two-day intensive training programme aimed at managers and site supervisors in the refrigeration engineering sector. The objective is to give participants a good overview of health and safety, and to offer practical advice on how to improve management techniques and practices in relation to health and safety.

The course is delivered over two days, with a 10-week gap between day one and day two. On Day One, participants will be given a general overview of Health & Safety in the Workplace. They will agree actions to be taken over the next 10 weeks to improve the management of health and safety in their own organisation.

Day Two is a follow-up session to include refresher training, a review of actions taken, and an opportunity to troubleshoot problems that participants may have encountered.

Course details are:
Venue — AHS Training Centre, Parkwest Enterprise Centre, Parkwest, Dublin 22.
Day 1 — Wednesday, 7 July 2004

Cost, including training, materials, lunches and refreshments — €150 per person.
Contact: Enda Hogan, Refrigeration Technology Skillnet.
Tel: 01 - 878 3773; email: enda.hogan@dit.ie

Building Exhibition

The Building Exhibition —
Wednesday 22 to Saturday 25 September, 2004 —
will be held at Simmonscourt, RDS, Dublin 4.

Apart from the building products exhibits, there will also be the FAS-sponsored Charity Scaffolding Competition in aid of the Children's Hospital for Sick Children, Crumlin; the Chartered Institute of Building’s Product of the Show Awards; and a full seminar programme covering topics such as health & safety in construction; women in construction; training; best practice scaffolding; concrete in construction; and timber frame housing. Running alongside the show will be the Wood & uPVC Machinery Exhibition.

Contact: David Skinner.
Tel: 01 - 288 8821; email: david@exhibitionsireland.com
The new Stulz CyberAir range from Walkair offers a flexible range of high-performance, precision, air conditioning units that achieve maximum cooling capacity from the minimum footprint. Five different unit sizes are available, ranging from 1000 mm to 2550 mm in width, as well as eight different cooling systems, with outputs of up to 150 kW per unit. Every cooling system is also available with either a down-flow or an up-flow air delivery.

The new Stulz C7000 controller system is available for the first time with STULZ VarioLogic. This means that every unit can be controlled directly, or up to 31 units can be configured and controlled via a single display. In an emergency, every unit continues to control itself with its “independent” intelligence.

The Stulz C7000s also offers comprehensive network integration and can be configured and monitored via the internet protocols SNMP and TCP/IP.

Working closely with fan provider Ebm-Pabst, Stulz has achieved excellent interaction between the electronically communicated fan and the unit design. Benefits include:

- High efficiency with energy savings of up to 30%;
- Infinitely-variable air volume setting via C7000 control;
- Long-life, maintenance-free operation through direct-drive technology;
- Smooth air path and noise-absorbing insulation reduced sound levels;
- Anti-vibration mounting isolates fan from unit structure.

Stulz claims to be the only manufacturer to offer all models in a complementary range as low-noise/low-energy versions. Units from this range offer a higher degree of efficiency and lower decibel values with the same cooling performance through an enhanced housing design. With the version optimised for energy and noise, Stulz offers a successful compromise between floor space and economically and ecologically sensible requirements.

Since established in 1947, Stulz has developed into a world-leading system provider in the field of air conditioning technology. In 2003 this division of the Stulz Group earned sales of almost €200 million. The company has an international network of specialists in air conditioning technology right throughout the world, a resource which Walkair personnel can tap in to whenever required.

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

Callister Joins Mitsubishi Electric

Mitsubishi Electric Ireland has appointed Alan Callister as Business Development Executive for the Air Conditioning Division. Alan moved back to Ireland in 2001 from the UK, having previously worked for Carrier Air Conditioning and Siemens Landis & Staefa. Prior to joining Mitsubishi Electric in May, Alan was Technical Sales Manager for Hevac Ltd.

Dumpleton Joins Marren Engineering

Marren Engineering has appointed Carl Dumpleton as Sales Manager. Carl is widely known throughout the building services industry, having spent in the region of 15 years serving different sectors, including process and general HVAC.

Contact: Carl Dumpleton, Sales Manager, Marren Engineering.
Tel: 01 - 833 4144; email: karldumpleton@marrenengineering.ie
Wavin has been the pioneer and leading innovator of plastic pipe systems technology in Ireland for almost half a century. It has now added to that reputation by perfecting a range of cross-linked polyethylene pex pipes in Irish dimensions for plumbing and heating applications.

New Wavin Pex Plumbing and Heating Solutions is ideal for those hard-to-reach places that every installer encounters. This new Wavin Pex brings plumbing and heating pipe production to a new level in terms of flexibility, strength and application.

Wavin has rigorously tested and re-tested this pex pipe in extremes of temperature to produce the ultimate pex pipe for hot and cold applications. This is the highest-quality product on the market and it far exceeds the requirements of Class S service conditions as specified in BS 7291-1-2001. It also carries the Irish Agreement Board Certification, Certificate No: 04/0201. It is fully approved for both open and closed central heating systems, underfloor heating, and plumbing applications.

"This level of approval makes new Wavin Pex the best all round performer", says Wavin Marketing Director Patrick Atkinson. "It also further endorses Wavin's objective to supply plumbers with the best products available. This objective will be carried forward even further later this year with the launch of more plumbing and heating products previously unavailable to plumbers", he said.

Wavin Pex plumbing and heating pipe is available from leading builders and plumbers merchants nationwide.
New Breakthrough In Plumbing & Heating Systems

**INSTALLATION GUIDELINES**

**JOINTING**
Wavin Pex can be jointed using Wavin Pex brass compression fittings to IS EN 1254. The pipe should be cut smoothly and squarely with a purpose-made pipe secateurs or hacksaw, and may need to be trimmed or filed to allow for a good joint. A copper pipe support insert should be placed into the pipe end after the nut and olive have been placed on the pipe. Push the pipe and olive into the fitting and screw the nut tightly to complete the compression joint.

**CLIPPING**
Clips should be positioned adjacent to fittings wherever possible, making due allowances for expansion and contraction of the pipework. The chart indicates the distances per diameter, clips should be place allowing for an average service temperature where the pipe is to be exposed. Pipe which is boxed-in or in some other way supported, can use fewer clips.

**BEST PRODUCT LIFE TEST**
Over the period of its life Wavin Pex pipe will not be damaged by freezing temperatures. The internal bore is smooth and is not liable to accumulation of scale in hard water areas. Pipes will not corrode under the action of soft water. Thermal expansion is accommodated within the length of a pipe run, reducing movement and subsequent creaking noises on joists, etc. Low thermal conductivity values mean that hot pipes are cooler to touch and the incidence of condensation on cold pipe is reduced. The Wavin Pex oxygen barrier greatly reduces the ingress of air into the system, thus reducing the corrosion within a central heating system.

Wavin Pex has a product guarantee of 25 years against defects in materials and manufacture, and has a life expectancy in excess of 50 years.

**STRENGTH & FLEXIBILITY**
Wavin Pex has been designed to avoid unnecessary "kinking" on installation, while remaining a flexible pipe to allow for easy manoeuvrability. It bends to small angles, thus creating less effort and less waste. No bending tools are required. Fewer elbow fittings are required in a typical installation. Wavin Pex can be cabled around obstructions and through joists, thus eliminating the need for notching which can weaken the joist. It can also be installed in suspended ceilings, from below, before the ceilings are fitted. Accurate pre-measuring is not required: the pipe can be measured and "cut on the job". Pipe clips can be used and are fixed using just a hammer.

**ELIMINATING WASTE ON SITE**
Wavin Pex is a high-performance material, which is flexible and durable. Due to its high impact resistance, less damage can be done on site, thus creating less waste.

**PACKAGING**
New Wavin Pex comes in a unique shrink-wrapped pallet box for the protection and careful storing of the individually-wrapped coils. The lengths are packaged in plastic sleeves for their protection on site.

**CONTACT**
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Toshiba Super Digital Inverter Split Systems

GT Phelan has introduced Toshiba's new inverter-controlled heat pump split air conditioning system for larger commercial applications. Designated the Toshiba Super Digital Inverter (SDI), it extends expectations of energy efficiency performance in this sector as all models in the range more than make the 'A' rating under the energy labelling scheme, and ECA approval has already been granted.

SDI is most suited to installations where systems are required to operate from a single phase power supply or where long pipe-runs are unavoidable. Typical applications would be shops in large malls, big out-of-town shop units, commercial locations within residential areas, or large residential applications themselves. The SDI range has cooling capacities of between 2.2 kW and 14 kW, and heating capacities of between 2.2 kW and 16.5 kW. These new outdoor units utilise the same wide range of optimised indoor units that has been so successful with the current Toshiba Digital Inverter range.

‘A’ energy rated EERs of 4.17 kW and COPs of 4.67 kW are achievable at Eurovent measured standards. The ‘A’ category would have to be increased by around five increments to reach the efficiency levels of this range. Even greater efficiencies are being seen at the low speeds typical of operation in low ambient conditions. For example, over 12 months under installed conditions the 5.6 kW model gives a 75% improvement in running costs over a comparable R407C fixed speed system.

The Toshiba SDI uses high pressure R410A as the refrigerant, improving heat exchange efficiency, and adds to its technological armoury the same vector-controlled IPDU (intelligent power drive unit) that makes Toshiba’s latest VRF range — the SMMS — an industry leading product. This drive unit can support either heating or cooling, even when outdoor temperatures are as low as -15°C.

Toshiba SDI can work with piping lengths that are up to 66% longer than industry standard products. Design improvements have been made throughout this outdoor unit’s technologies, even the new fan design boosts airflow and suppresses noise.

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

RACGS At Mount Wolseley

The most recent RACGS Spares were sponsors on the day and they presented a beautiful array of prizes. The winners are as follows:

- **Overall Winner**
  - Sean Johnston (34 pts);
- **Class 1 Winner**
  - Dave McDonald (31 pts);
- **Class 1 Runner Up**
  - Joe Warren (30 pts);
- **Class 2 Winner**
  - Michael Clancy (30 pts);
- **Class 2 runner up**
  - Dave O’Riordain (30 pts);
- **Class 3 winner**
  - Frank O Sullivan (29 pts);
- **Class 3 Runner Up**
  - Zack Keane (23 points);
- **Front 9**
  - Roland Bradley (17 pts);
- **Back 9**
  - Domnick Ward (14 pts).

Spares were held at Mount Wolseley, a choice that reflects the growing status of the Society and the high calibre of course now being presented for the enjoyment of members and their guests. That said, the course was playing extremely long on the day with scoring very difficult off the white tees. The weather was very pleasant, albeit for an intermittent strong breeze. This made playing conditions quite challenging for the excellent turnout, the winning score of 34 pts reflecting just how difficult it was.

Dermot Byrne and his colleagues in Fridge outtings for the forthcoming season are as follows—

- (a) Friday, 10 September at The Heritage GC, 2.00 – 3.30 pm. Sponsor: Danfoss (Ireland);
- (b) Saturday, TBA October at Thurles GC, TBA. Sponsor: Ryan Insulations;
- (c) Saturday, 27 November at Kilkea GC, 10.30 – 12.00pm. Sponsor: Sanyo Air Conditioners Europe.

To reserve your tee time please contact Angela Keane Tel: 045 - 893 228

Honeywell HBS has appointed Gerry Pembroke as Operations Leader for Ireland. Honeywell offers system solutions and services for its building management access, fire and security products under this division. Honeywell employ 35 people in Ireland and has offices in Dublin and Belfast.

Contact: Gerry Pembroke, Honeywell HBS. Tel: 01 - 456 5944; email: gerry.pembroke@honeywell.com.
Digital Differential Manometer

Manotherm has just introduced the Dwyer Model 247-0 digital differential manometer. It can be used to measure positive, negative, or differential pressures from -60" wc to +60" wc (-150 mbar to +150mbar).

The unit features selectable engineering units and a min/max function. To freeze the current pressure measurement on the display, the operator simply presses the hold key. Model 478-0 includes a zeroing button to null out any minor pressure differences. A backlight makes reading the display possible in poorly-lit areas.

This economical manometer is ideal for verifying filter condition, monitoring clean rooms, trouble-shooting HVAC systems, and performing field calibrations. The electronics are housed in a rugged extruded aluminium case, providing long life and durability.

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

BTU At Royal Dublin
Sponsor: Danfoss (Ireland)

Playing into a strong wind on the back 9, and with the intermittent showers, Royal Dublin presented a tough challenge to all participants in the latest BTU outing which was sponsored by Danfoss (Ireland). Unfortunately, we received no photographs of the prize givings but details of the winners are as follows:

Overall Winner
Des Prendergast (36 pts);
Class 1
Winner — Dermot Ryan (33 pts);
Second — Michael Matthews (33 pts);
Third — Michael Morrissey (32 pts);
Class 2
Winner — Jim Smith (32 pts);
Second — Paul Allen (31 pts);
Third — Gerry Tobin (30.5 pts);
Class 3
Winner — Terry Maher (36 pts);
Second — Martin McKeon (33 pts);
Third — Noel McKeon (33 pts);
Front 9
Winner — Garvan Evans (21 pts);
Back 9
Winner — Ger Hutchinson (18 pts);
Visitor
Winner — Des Haughton (37 pts).

Powrmatic Blows Hot Air

Ultrador, by Powrmatic, is a new high-efficient gas-fired heater designed primarily to provide a warm air curtain across frequently-opened doors to prevent cold draughts and heat loss. Indeed, in most applications the Ultrador, with its high efficiency 10kW burner, provides the added benefit of heating the whole area.

Ultrador has a claimed combustion efficiency of 92% and comes complete with a flue pack consisting of three metres of 50mm diameter single-wall, flexible-flue, gas terminal and external trim plate.

The casing is manufactured from 1mm steel finished with a durable epoxy paint, coloured BS00A01 Ash Grey. A pressed return air louvre is located on the rear of the unit while the outlet louvre is located on the underside to provide optimum curtain velocity. Behind the return air louvre is a synthetic fibre filter that can be simply withdrawn for vacuum cleaning or washing with mild detergent.

Four suspension points are situated on the top of the unit for direct connection to drop rods or optional support brackets. The burner, exhaust fan and controls are located on the left of the unit as standard. Units with these components fitted to the right can be manufactured to order.

Three centrifugal fans with balanced aluminium blades are mounted within an involute made from galvanised steel. They are direct-drive with self-lubricated sealed-for-life bearings. The motors are single speed operation with thermal overload protection and are suitable for 240V single phase electrical supply. All units come with a 2-year guarantee.

Contact: Tony Delaney, Powrmatic. Tel: 01 - 452 1533; email: tonydelaney@powrmaticireland.com

Bathroom Style From Flair

Jumbo slide-away and side panel unit from the extensive Flair International collection. Contact: Gordon Provan, Flair International. Tel: 0429 66 52 94; email: sales@flairinternational.com
Management of contracts is a critical area of facilities management as it is one of the tools used to measure the performance of the facilities management company and the performance of subcontractors.

The facilities management role is one of a developing nature and is defined by the Irish Property & Facility Management Association as "the practice of co-ordinating the physical workplace with the people and work of an organisation".

A facilities manager must understand what the organisation’s core business is, coupled with the strategy and goals of that organisation, in order to put into practice what is required. For example, financial institutions are people-intensive businesses whereas manufacturing companies are process intensive. Some of the facilities manager’s key responsibilities are as follows;
- Run and maintain all plant and equipment;
- Maintain building fabric;
- Manage alterations and change;
- Procure and manage energy usage;
- Manage security and risk;
- Health & Safety;
- Aesthetics and environmental upkeep;
- Operating budget control;
- Life-cycle planning for all major plant;
- Insurance.

Before discussing further the management of a contract, I would like to outline the methods used to select the sub-contracted service provider, and the mechanisms to monitor the delivery of service.

Depending on the size and type of the contract, the first step would be to put the contract out to tender. The tender document typically includes the service specification, preliminary Service Level Agreement, and the contract terms and conditions. The tender assessment will be based on pre-determined qualitative and quantitative criteria.

The service specification details the minimum standard of service required by a client and is normally the prerequisite to developing and negotiating the Service Level Agreement.

The Service Level Agreement is a formal document that sets out the expectations of the client in terms of quality, performance and value of the services provided, and would normally contain the following:
- Name of parties;
- Roles and responsibilities of the parties;
- Scope of services;
- Performance targets – quality, time, cost;
- Rates/costs;
- Resource allocation;
- Communication method and dispute resolution process;
- Change procedures.

The performance of the Service Level Agreement is then measured using Critical Success Factors (actions that must be performed well in order to meet the organisations goals), and Key Performance Indicators: These enable the management to understand, measure, and control the progress of each of the Critical Success Factors.

The tender process and Service Level Agreement are particularly important for services such as cleaning and security. There are other services to be provided which are determined by the manufacturer’s recommendations, legislation, regulation, and of course health and safety.

Typically, the frequency of the Planned Preventative Maintenance on plant and equipment is determined by the manufacturer’s recommendations whereas the Planned Preventative Maintenance on fire systems and emergency lighting would be covered by regulation.

Facilities managers operating to best practice standards will generally allow for sub-contractors to be tendered on all of the larger contracts every two years.

After the tender process has been completed and the contract awarded, the process of contract management is just beginning as to manage the relationship with the sub-contractors in a successful manner will take hard work. Even though the mechanisms have been put into place to measure the performance of sub-contractors, a partnership arrangement can be developed to enhance the possibilities for cost-saving and to achieve the goal of best practice through the sub-contractor’s specialist knowledge.

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Experience in this field, coupled with expert advice on best practice and how this can be best achieved for a particular organisation. Frequently, cost saving incentives can be provided for example, through bulk buying and a range of value add services.

As facilities management is about the delivery of services, it is important that payment is based on performance — both the performance of the facilities management company and their sub-contractors. All contracts should define, through the methods discussed previously, how payments are adjusted when the required service level is not met.

Similarly, service providers should receive reimbursement, and in some cases a bonus payment, when service levels are met or exceeded. The contract should also define the level of service at which the contract can be terminated where financial penalties are no longer achieving an improved service.

The facilities manager is responsible for managing a wide range of services and must be proficient in dealing with the varying issues that arise per service provided. The issues arising from soft services, for example cleaning and security, differ greatly from that of hard services, i.e., plant and associated equipment.

The schedule and frequency when each service is carried out must also be managed. On a service agreement that allows for a quarterly maintenance visit it is important that the service provider completes the maintenance at regular intervals. It is of no benefit to allow a service provider to carry out his 1st quarter visit in March and his 2nd quarter visit in April. This could potentially lead to the next service not taking place until September.

As the range of services and frequencies can differ dramatically for any building, from mechanical and electrical maintenance to internal plants, a maintenance planner should be developed by the facilities manager to enable all contracts to be monitored and maintained in terms of frequency.

Finally, the facilities manager must communicate with the client organisation on a regular basis. Although most facilities management companies report on a quarterly basis covering both operations and financials, daily and weekly, formal and informal communication is essential. This ensures comfort, peace of mind, and also builds trust among all parties involved in delivering an optimal and safe working environment for staff and visitors alike.
Enhanced High-Performance Air Conditioning

EHPAC
Enhanced High Performance Air Conditioning

MITSUBISHI HEAVY INDUSTRIES, LTD.

R410A

Dublin: 01 462 7570

Published by ARROW@TU Dublin, 2004
EHPAC MARKS MAJOR

Mitsubishi Heavy Industries has always been at the forefront of technology. It has a long history of compressor development and knowledge to pioneer ever-more inventive ways of driving forward, now manifest itself in the guise of the new EHPAC range of split systems. This represents a major breakthrough in air conditioning technology.

HIGH PERFORMANCE & EFFICIENCY

R410A applied to air conditioning and heat pump systems greatly improves performance and efficiencies. When combined with the results of MHI's considerable research and development in respect of compressors, expansion devices and heat exchangers — which all now have internally-grooved tubes — the result is exceptional.

REMARKABLE COP IN EXCESS OF 3.6kW

Coefficient of Performance (CoP) is the terminology used for measuring the useful heat output from a system, compared to the energy input. It is remarkable that CoP in excess of 3.6 has been achieved for many of the new EHPAC systems. This, essentially, means that for every 1kW of electrical energy consumed, the system will deliver 3.6kW of heat into the conditioned space.

THE REFRIGERANT OF THE FUTURE

Why R410A?... The reason MHI have gone for R410A is that it has zero ozone-depleting-potential (ODP). It is a pseudo-azeotropic refrigerant, which, put simply, means that it behaves in the air conditioning system as though it were a single substance, with virtually no glide despite being a blend (R32 and R125).

R410A has much better heat transport properties than other common refrigerants, and also has a higher density. This allows for smaller tubing diameters in the heat exchangers and inter-connecting pipework, and lower refrigerant charge.

The benefit is that MHI can now include a factory refrigerant charge for up to 30m in pipe length in a EHPAC FD splits systems, and for 15m pipe length (which is the maximum) for SRK systems.
INDUSTRY BREAKTHROUGH

The development of high-performance air conditioning and heat pump manufacturing, its engineers dedicated to combining this wealth of experience and the boundaries of performance and energy efficiencies. That effort has led to systems and multi-systems, which are based on R410A refrigerant. This range is especially in respect of enhanced performance and energy efficiencies.

SUPERIOR CONTROLS

To achieve maximum efficiency and performance requires control of the resources and features built into the systems. Hence MHI has developed a superior controls system covering every conceivable requirement.

While ultra-sophisticated in terms of capability, it is simple to understand and operate. The wired remote controllers are available right throughout the EHPAC FD range, covering ceiling, wall and ducted units.

NOISE REDUCTION

The outdoor unit can operate at reduced fan speed at night to reduce the noise level.

ELECTRONIC EXPANSION VALVES

Every cooling/heating system has a compressor and an expansion valve. Traditionally, many expansion devices have consisted of a capillary tube with fixed parameters. MHI has now employed the same technology as used in the advanced VRF systems by using electronic expansion valves (EEV).

This allows the optimum refrigerant flow and expansion pressure drop for varying conditions at which the system is required to work. The result is higher performance and lower energy consumption.
EHPAC
Enhanced High Performance Air Conditioning

FDEA Ceiling Mounted

FDKA Wall Mounted

FDTA 4-Way Cassette

FDURA Ducted

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

Established in 1995 as a small family business by husband and wife team, Donal and Aine McGoe, Delta Filtration Ltd of Kilmallock, Co Limerick, has grown in less than a decade to become Europe’s leading independent supplier of semi-finished and private-label air filtration products. Export-driven from the outset with a target to supply semi-finished filtration products to the UK, the company now employs 30 people working over a 3-shift daily cycle to serve its ever-expanding presence in over 40 countries worldwide. Users of Delta Filtration products include Harrods of London, Ministry of Defence UK, 3M, Singapore, and Panasonic, Japan.

Flushed with this success the company has now turned its attention to the Irish market. To that end they have appointed Donal Lynch Sales Manager (Ireland) with a specific brief to promote and develop sales of the company’s extensive product range throughout all of Ireland.

Under the supervision of Production Director, Denis McCarthy, Delta Filtration has invested significantly in plant and equipment over the years and has always been to the forefront in employing the latest and most advanced manufacturing techniques. It uses an ultra-sonic welding process and, as an ISO 9000 registered company, puts every single product coming off the line through a rigorous inspection and testing procedure.

The vast bulk of Delta Filtration’s portfolio is 100% synthetic, containing no glass fibre. Efficiency ratings are excellent, each product being certified for compliance for the specific application including UL certification. There are five primary product categories—

Del-Pleat
This extended surface pleated panel filter can be used in a wide range of residential, commercial and industrial air filter systems. They are available in a wide range of standard and special sizes in depths of 1", 2" or 4". The Del-Pleat panel filter is constructed from pleated filter media enclosed in a cardboard frame;

Delta UltraSeal Bag Filter
The Delta UltraSeal Bag is a new and revolutionary synthetic extended surface high capacity air filter. It is specifically designed for situations requiring the highest degree of air cleanliness. The filter consists of a number of individual pockets, enclosed in a corrosion resistant metal frame. Standard and non-standard sizes are available in all filter efficiency grades;

C-Cell
This pleated filter is made from 100% polypropylene filter media produced using a modified meltblown process. It is extremely durable with high compressive strength in the airflow direction and is tested to a burst strength of 6250 Pa. The unique V configuration ensures low initial resistance and a longer lifespan;

V-Cell
Delta V-Cell follows the successful line of the C-Cell. It is a cartridge-type rigid bag filter containing 14 m sq of media in the form of eight individual slabs of 22mm-deep pleated media. Ideal for all HVAC or gas turbine applications.

However, the Delta Filtration portfolio is not made up entirely of own-manufactured products. The company also distributes a number of leading-brand ranges for specialist applications, such as Hepa Filters for cleanrooms and hospitals and the renowned Filtrair BV range of Spraybooth Media.

Operating out of purpose-designed premises in Kilmallock, Co Limerick, Delta Filtration has enjoyed considerable success on the export front and is now determined to emulate that by becoming the leading supplier of air filtration products to the Irish marketplace.

Contact: Donal Lynch, Delta Filtration, Tel: 063 - 98829; email: d.lynch@deltafiltration.com

Donal Lynch, Sales Manager (Ireland), Delta Filtration
While it is no longer politically correct to talk about cowboys — in any industry sector let alone the domestic heating sector — the reality is that the cowboy element, and mentality, is doing considerable damage to the business. It is important at the outset to make the distinction between the guy doing the odd nixer and the person running a so-called business on a nixer basis. The former is perfectly acceptable while the latter is totally unacceptable.

The damage being done to the business by unscrupulous operators is enormous and impacts at a number of levels. These include:

- It militates against the legitimate operator who simply cannot compete on price because of higher overheads in respect of insurance premiums, pensions contributions, training programmes, etc;
- Margins are so low for legitimate operators that they cannot fund training and so, the entire skills base of the business is undermined;
- It militates against the product suppliers who run the risk of legitimate operators going under, owing them large amounts of money;
- There is also the cost of call-outs and call-backs for suppliers. Far too often the customer calls the company whose name is on the boiler, complaining that it does not work when, in effect, the problem is that is has been incorrectly installed. This can also unfairly get a brand a bad name;
- It damages the whole perception of the business. Is it any wonder that consumers at large expect to get advanced, sophisticated heating systems for a pittance when the same households think nothing of spending say €5000 on a plasma TV. It is the business which has sold itself short over the years, and far too often still continues to do so. There are many more reasons one could list but the foregoing are sufficient to make the point. When you consider that there will be something like 60,000 new-build homes this year and another estimated 30,000 major improvements to existing homes, the domestic installation sector - both installers and product suppliers alike - should be rubbing their hands in glee. Instead they are ringing them in anguish. The irony is that it is still in their own hands ... all the industry has to do is stand up and be

**Route Taken Vindicated**

The fact that REGII has achieved such a great deal in such a short space of time bears testimony to the fact that the contracting sector is indeed a force to be reckoned with. This is not to seem triumphalist but rather to illustrate to the sceptics that domestic installers have a significant contribution to make towards the well-being of the industry.

REGII has now established itself as the bona fide representative voice of domestic installers with Mr Dermot Ahern, TD, Minister for Marine, Communications & Natural Resources, who is responsible for regulating the industry; the Commission for Energy Regulation (CER), which is drafting the new legislation governing the registration of gas installers; product suppliers and manufacturers; Bord Gais; and Sustainable Energy Ireland (see also page 25).

So, to those of you still sitting on the fence, it’s decision time. If you want to progress your business and protect your future, come on board. If you don’t, you could be left behind.
A new SEI initiative called Sustainable Energy Buildings Network ("SEBNet") is intended to bring together Ireland's main suppliers of energy-efficient building products and services, principally for the housing sector. The goal of SEBNet is to gain competitive advantage for more sustainable energy products and for the companies that provide them.

In practical terms, achievement of this goal will be seen through measurably-increased uptake and better application of such products in both the new-build and home improvement markets, through more effective engagement with developers, specifiers, builders and installers.

The activities of the network will be directed at growing the market for sustainable energy solutions, through stimulating consumer awareness and demand, enabling consumers and specifiers to differentiate high-quality solutions, and helping to build capability among committed suppliers and installers. SEI will play a facilitating and servicing role, as an adjunct to its "House of Tomorrow" programme.

As SEI is supporting the establishment of the SEBNet initiative without any direct financial contributions from its members, a membership fee is not envisaged at this point. However, a minimum ongoing level of commitment and participation is expected from those who choose to become network members.

Participants in the network will formally commit to promoting and delivering more sustainable energy practices in the design, specification, construction, operation and maintenance of buildings in Ireland. This will require co-operation and participation in the necessary development, training, branding and other promotional activities of the network. The conditions of membership state that members must:

— Have an operating base in Ireland;
— Have a shared commitment to grow the sales of more sustainable energy products, including promotional initiatives agreed by the network;
— Support the purpose and objectives of SEBNet, including the pursuit of activities that enhance best practice in product installation in buildings;
— Commit to participating in a specified number of consultative meetings in the year;
— The CEO, or other nominated executive of the company, shall be signatory to the company's participation in the network;
— Produce a short annual statement, in a standardised format, outlining their progress and achievements relating to their membership of the network.

As sales growth is an important indicator of success, it is envisaged that members will share certain commercial information with SEI in the strictest of confidence. SEI will draft an agreement outlining the nature of the information required and its commitment not to share such information with any third party without the express consent of the member.

Contact: Tim O'Sullivan, Network Manager, SEI.
Tel: 01 - 836 9080; www: sei.ie

Group pictured at the inaugural SEBNet meeting in Dublin
"In the Pursuit of Excellence" was the theme for this year's National Skills Competitions held, as always, in DIT's Linnenhall building in Bolton Street. The pursuit of excellence is an admirable aspiration but, what was evident from viewing the participants in the refrigeration and plumbing finals last month, is that a significant degree of excellence has already been achieved. What they were striving for was near perfection.

It is obvious that the students have an appetite for the challenge, an attitude engendered in them by the dedicated commitment of their tutors. This is particularly so of Garret Keenaghan, who looks after refrigeration, and John Smart, who is responsible for plumbing.

Another essential ingredient is the contribution of sponsors, both big and small, who provide funding, tools and equipment, and materials. These include Wavin, Danfoss Ireland and Fridge Spares. It also includes the competitors employers who generously release them at a time which is for many a very busy and active trading period.

While DIT caters for a total of 175 apprenticeships group annually, readers of BSNews will be most interested in refrigeration and plumbing. After the preliminary rounds which, incidentally, include competitors from all the apprenticeship centres nationwide, the finalists were reduced to six in both refrigeration and plumbing. They are as follows:

**PLUMBING**
Ruairi Carey, Ennis.
Employer: Noel O'Loughlin.

Brendan Horgan, Dublin.
Employer: Aqua Engineering.

Mark McGlanaghey, Donegal Town.
Employer: Designer Mechanical.

Seamus Munnelly, Ballina.
Employer: New Millennium Heating & Plumbing.

Stephen Sheerin, Ballyshannon.
Employer: James Likely.

Stephen Whelehan, Dublin.
Employer: Leo Lynch & Co.

**REFRIGERATION**
Nigel Barry, Cork.
Employer: Cross Refrigeration.

Des Collins, Cork.
Employer: Permafrost Refrigeration.

Andrew Conaghan, Donegal.
Employer: Killybegs Electrical & Refrigeration.

Eugene Delaney, Cork.
Employer: Cork Cooling Company.

Daniel L'Estrange, Dublin.
Employer: Dale Air Conditioning Services.

Stephen McGrath, Cork.
Employer: Galtee Foods.

Plumbing Skills winner — Margaret McCarthy of Wavin presenting Mark McGlanaghey with his trophy while John Smart looks on.

Plumbing Skills contestants — Ruairi Carey; Brendan Horgan; Mark McGlanaghey; Seamus Munnelly; Stephen Sheerin; and Stephen Whelehan.

Refrigeration Skills contestants — Nigel Barry; Des Collins; Andrew Conaghan; Eugene Delaney; Daniel L'Estrange; and Stephen McGrath. Andrew Conaghan was the overall winner.
BSNews Ruby Edition

Next month’s BSNews is a special-edition celebratory publication to mark our Ruby Anniversary. You can share in the festivities by availing of our once-off Ruby Rate of €1900 for a double-page-spread in full-colour. It is a set advertorial format with your company details and photographs accompanied by snippets from industry, national and international events down through the years.

CONTACT
Mobile: 086 253 7115   email: joe@pressline.ie
For over 80 years, the Range brand has been synonymous with quality, embodying all the hallmarks of manufacturing excellence and product innovation. Exhaustive research and development has now culminated in the new Tribune family of duplex stainless steel unvented cylinders which are available in Ireland from Precision Heating.

With 19 models in its product range, there is a Tribune capable of fulfilling every requirement. Benefits include:

- Duplex stainless steel construction;
- Fully transferable 25 year guarantee;
- High flow-rate controls, making it ideal for multiple bathrooms and power showering;
- Fast reheat and high insulation values which mean high efficiency;
- A complete package is provided ... just add pipework;
- Direct, indirect and twin coil versions.

There are seven sizes in the 90-300lt category and five sizes in the 150-300lt category.

Duplex stainless steel, for so long reserved for the intense demands of chemical plants, forms the heart of every Tribune unit. It offers superior corrosion resistance to copper, glass-lined steel and other lesser grades of stainless steel, particularly in aggressive water areas.

Duplex stainless steel is a special combination of austenic and ferritic stainless steels. Its low-carbon, high-chromium composition is allied to careful design and state-of-the-art TIG welding equipment recently installed at Range's new multi-million euro factory.

As a result, Tribune is resistant to all forms of corrosion, including crevice-corrosion, pitting-corrosion, uniform corrosion and stress corrosion cracking. Tribune's superior corrosion performance is achieved without an anode and its associated maintenance worries.

Duplex stainless steel is also environmentally friendly. As a material it is 100% recyclable. In fact, over 90% of new stainless steel comes from old re-melted stainless steel. Stainless steel will go on to complete full life cycles indefinitely.

Contact: Alan Hogan, Precision Heating.
Tel: 01 - 842 8763; email: ahogan@precisionheating.ie

https://arrow.dit.ie/bsn/vol43/iss6/1
HeatMaster

HM 60 / 70 N / 100 N / 150 JUMBO

HM 60 N / 70 N / 100 N
With AVC BG 200-S premix gas burner

HM 60 N / 70 N / 100 N
With AVC BM 101 oil burner

HM 150 JUMBO
With AVC BM 151 oil burner
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 gasketted 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.

The 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, Euro Fluid Handling Systems.
Tel: 01 - 450 3884;
Fax: 01 - 450 7634;
email: eurofluid@eircom.net
For details on the full range of Heatrae Sadia and Santon products contact:

Potterton Myson (Irl) Ltd
Belgard Road, Tallaght, Dublin 24
Tel: 01 - 459 0870  Fax: 01 - 459 0880  email: post@potterton-myson.ie
www.heatraesadia.com
The ACV HeatMaster from Euro Fluid Handling Systems is a high-performance, direct-fired, hot water storage heater which has indirect heat transfer due to its tank-in-tank construction. Ideal for use both as a combined boiler and water heater, or as a stand-alone water heater, it is capable of operating at very high temperatures and with highly-corrosive water.

At the heart of the HeatMaster is a stainless steel cylinder through which the flue tubes pass. This is surrounded by a mild steel shell containing the primary water (neutral fluid). The outer shell extends down to the combustion chamber and even around the flue tubes. The area of the heat transfer surface is therefore much greater than that of standard direct-fired water heaters.

A circulating pump fitted to the primary circuit moves the water around the tank, heating it faster and maintaining an even temperature across the primary jacket. The burner fires on to the primary water which indirectly heats the stainless steel cylinder containing the DHW. As with all tank-in-tanks, this is corrugated over its full length and suspended in the HeatMaster by its hot and cold water connections.

Key benefits of the Heatmaster concept are:

- Limescale build up is prevented because the cylinder expands and contracts during use and cold water does not come into contact with the intense heat of the burner flame.
- There is no need for sacrificial anodes because of the scale-resistant features and the corrosion-resistance of stainless steel.
- Because it heats the DHW with a primary circuit, this primary water can be used to provide central heating as well.
- Most hot water and heating demands can be met simply by connecting two, three, four or more HeatMasters together in a module.
- When used in conjunction with HR and Jumbo hot water storage tanks, the HeatMaster can supply even the largest hot water requirement.
- The combustion efficiency of the HeatMaster is 92%. This high figure is due to its water-cooled, closed, combustion chamber.
- HeatMaster is able to provide domestic hot water at temperatures as high as 90°C.
- Since the total volume of water is stored at more than 60°C, there is no possibility of legionella bacteria growing within the appliance.
- Room-sealed operation (no chimney) — This type of operation is possible due to the use of a sealed combustion chamber and an exterior air supply. It is necessary to ensure that the installation conforms to the relevant regulations applicable.

The reliability of ACV steel boilers needs no proving. It is not uncommon to find 30-year old ACV boilers still operating. Additionally, there are almost the only cylinders which can be considered to be auto-descaling.

Contact: Bernard Costelloe, Euro Fluid Handling Systems.
Tel: 01 - 469 0352; email: eurofluid@eircom.net
Sealed System Equipment & Expansion Vessels

As established industry leader in the sealed system equipment sector, Flamco manufactures a wide range of quality products, including air separator/dirt removal equipment, vented and unvented cylinders, storage vessels, pressurisation units, water fittings and controls. All are available from Euro Fluid Handling Systems, in addition to comprehensive technical support and system design assistance.
Potterton Myson has greatly expanded its product portfolio — and the scope of applications it can cater for — with the addition of two world-leading brands, namely Heatrae and Santon. Both are long-established brands, renowned for their quality and their dedication to bringing ever-more-advanced water heating solutions to the marketplace.

Heartrae Sadia is the UK's largest manufacturer of electric water heating products. Established over 75 years ago, it is now a trading division of Baxi Heating UK, which is part of the Baxi Group and has a €1 billion turnover. Products for use in residential, industrial and commercial premises include:

- Unvented storage water heaters (electric and indirect);
- Vented storage water heaters (Electric and indirect);
- Instantaneous water heaters (electric showers and hand wash units);
- Boiling water units for drinks;
- Electric immersion heaters and thermostats.

The range is extensive and cares for virtually every conceivable requirement.

A typical example is Megaflo, which is widely regarded as the brand leader in unvented domestic water heating. It offers levels of performance that are unrivalled by the competition. Whether it is a single-bed apartment, a luxury family home, or a busy sports club shower complex, Megaflo ensures a constant supply of high power hot water, day in and day out, year after year. Brand leading domestic unvented water heating from 70 to 300 Litre.

The new high-efficiency Megaflo HE now boasts numerous innovative features designed to ensure superior levels of operating efficiency, delivering even more hot water precisely where and when needed.

Then there is Megaflo HE SystemFit, which is designed to reduce significantly on-site installation time. These factory-assembled units are pre-plumbed and pre-wired with Danfoss central heating controls, pump, automatic by-pass valve and balancing valve.

Santon is also a leading name in water heating for over 70 years. Part of Heatrae Sadia, it has a comprehensive product portfolio, including vented and unvented water heaters for domestic, commercial and industrial use, Santon has established a reputation for manufacturing top quality, highly-reliable water heating products designed to meet the most demanding customer needs. Santon water heating products include:

- Unvented storage water heaters (direct and indirectly heated);
- Vented storage water heaters (electrically heated);
- Instantaneous water heaters and hand wash units;
- Electric immersion heaters (industrial).

Products from both ranges are manufactured in ISO 9002-accredited factories, the design and production processes intended to result in “fit-and-forget” quality products which are easy to install, have minimal servicing requirements, and provide long life performance cycles.

Research and Development

Both brands use the latest 3-D cad systems and rapid prototyping technologies in the development of their products to ensure that they are of the highest standard of quality and performance. Product development teams work with external design companies to ensure that the product styling is appropriate to today’s discerning market.

Continued investment in research and development ensures that all products are at the leading edge of water heating technology and approved to appropriate standards.

Full technical support and training across both product ranges is provided by Potterton.

Thanks to the high-performance "coil in coil" heat exchanger in the new Heatrae Sadia Megaflo HE, more hot water is available quicker than ever before.

The Santon EV2001 range combines modern styling and excellent performance. Designed to supply heated water to one basin by means of a swivel spray outlet, the units are ideal for commercial use where control of the water flow is required.

Myson at its purpose-designed training centre in Dublin.

Both ranges are available from leading merchants and stockists nationwide, including all Heatmerchants' outlets.

Contact: Vincent Broderick, Potterton Myson (Irl).
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email: post@potterton-mysom.ie
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Unit 19, Airways Industrial Estate, Dublin 17. Tel: 01 842 8763, Fax: 01 842 8820

*All as standard

www.range-cylinders.co.uk
Flamco is a worldwide-active company with its own production facilities in the Netherlands, Germany and Great Britain, and its own offices and sales organisations in many countries. In addition, it is represented by distributors in many other countries, including Euro Fluid Handling Systems here in Ireland.

With more than 30 million Flexcon expansion vessels sold, Flamco is a major player throughout Europe and was the first company to introduce expansion vessels and sealed system equipment to Ireland.

In addition to sealed system equipment, a wide range of other quality products are produced including air separation/dirt removal equipment, vented and unvented cylinders, storage vessels and water fittings and controls.

Flamco products are renowned for their quality, durability and performance. All are manufactured at ISO-accredited production facilities and bring to the marketplace the results of significant investment in research and development. Pioneering and innovative, Flamco is an acknowledged industry leader, renowned for introducing new concepts which go on to become the industry norm. Typical examples of its significant research and development programme include the following, most recent, introductions:

**Flexfiller Micro & Digital Pressurisation Units** — Flamco is already established as a market leader where totally-enclosed pressurisation units are concerned but this range is unique. What sets it apart is that it incorporates a programmable microprocessor for use on sealed heating and cooling systems to maintain a minimum system pressure requirement and provide make-up.

Other benefits and features include WRAS listed controls and fittings; break tank filter; Type ‘A’ air gap; centrifugal pump on 225 model; illuminated on/off switch, panel mounted; cartridge fuse protection; Lockshield isolating and drain valve; pressure gauge; and pump accumulator.

**Flamcovent Clean Microbubble Air Separators with Dirt Chamber** — This unit was specially designed to separate solid particles as well as air from a heating or air conditioning system. The construction of the Flamcovent has been changed in such a way that in the enlarged bottom bowl, a turbulent-free area is created to form the Flamcovent Clean which allows dirt particles to sink to the bottom. These can then be drained from the system through the vent provided. Available in two connection types: flanged or welded.

Maximum operating temperature is 120°C while the maximum working pressure is 10 bar.

**LS/E Storage Vessels** — Economical, high-performance, stainless steel load storage vessels for hot and cold water storage. Designed for use on all unvented hot water supply systems, they offer optimum corrosion protection and minimal calcium build-up.

Demand peaks are satisfied by storage volume and refilling during period inactivity particularly economical water heating using a heat exchanger.

- Capacities include 300lt, 500lt, 750lt and 1000lt.

**PS Storage Vessels** — This is a range of mild steel buffer storage vessels suitable for closed circuit heating and chilled water systems. Boiler usage is reduced and system efficiency improved by the storage of large quantities of water. Capable of connection to additional heat sources. Externally painted, uncoated internally.

- Capacities — 200lt, 500lt, 750lt, 1000lt, 1500lt and 2000lt.

**Flamcomat Expansion Vessels for Constant Pressure, De-aeration and System Refill** — This is a unique product which combines all the essential elements required for a commercial heating or cooling system to be automatically pressurised, filled and de-aerated in one highly-efficient unit. Benefits include:

High-quality pressure monitoring within precise parameters;
- Constant energy saving system venting;
- Automatic make-up in event of a leakage;
- Multi-functional within a compact installation area;
- Ready-to-use unit providing easy installation.

- Maximum working pressure: 5 bar.
- Maximum system operating temperature: 120°C (may be exceeded with addition of an intermediate vessel); Maximum vessel operating temperature: 70°C;
- Manufactured to DIN 4807, with full CE approval.

Available with single or duo pump, capacities range from 150lt right up to 10,000lt.

Contact: Bernard Costelloe, Euro Fluid Handling Systems. Tel: 01 - 460 0352; email: eurofluid@eircom.net
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.
The Irish Wind Energy Association (IWEA) recently called on the ESB to put its money and faith in renewable energy in order to avoid over-dependence on imported fossil fuels and the kind of price hikes proposed by ESB chairman Tadgh O'Donoghue.

"We would all benefit from the indigenous, non-polluting energy source that wind could and is providing," said IWEA chairman Tim Cowhig. "If the ESB put more of its money into accommodating renewable energy and making the necessary reinforcements to the grid network, and less effort into building up reliance on foreign fuels, we would all be better off," he added.

Prompted by this announcement, BSNews embarked on a fact-finding mission to determine just how advanced the wind energy sector is, and just how far-flung the various installations are. Additionally, we spent a number of days touring the North-East of the country and discovered that, for the most part, there appeared to be very little resistance to the installations from locals in their vicinity.

There are currently 34 on-shore wind energy projects and one offshore wind project in commercial operation in Ireland, with a total installed capacity of 225,985 Megawatts. These renewable energy based electricity plants have been supported, in the main, under the Department of the Marine & Natural Resources' Alternative Energy Requirement (AER) Programme.

Other projects have been built with assistance from the EC VALOREN and THERMIE Programmes and under the liberalised electricity market for renewables. The latter market mechanism is commonly referred to as Third Party Access to the electricity grid (TPA).

For the most part these projects are located in mountainous and/or coastal regions, taking in counties such as Donegal, Leitrim, Cork, Kerry, Roscommon, Galway, Mayo, Wexford, Sligo and Tipperary.

New wind energy projects are currently under construction in counties Carlow, Cavan, Cork, Clare, Donegal, Galway, Kerry, Leitrim and Tipperary.

While wind energy generation is relatively young as an industry sector, the foregoing clearly illustrates that it is far from experimental. It is very much established, and is developing at an ever-accelerating pace.

Championing this development is the Irish Wind Energy Association (IWEA). This is a voluntary organisation of people interested in the promotion of wind energy in Ireland. In the 1980s the Solar Energy Association of Ireland represented the interests of those interested in any form of renewable energy, with the exception of those involved with hydroelectric power, who already had their own association. These organisations consist mainly of people determined to do something to help develop environmentally-friendly, non-polluting sources of energy.

In 1993 those interested in wind energy in particular formed the Irish Wind Energy Association. The association has grown to several hundred members since then.

At European level the industry is represented by the European Wind Energy Association (EWEA).
Energy Association.
EWEA actively promotes the utilisation of wind power in Europe and worldwide. Its membership includes manufacturers covering 98% of the world wind power market, component suppliers, research institutes, national wind and renewables associations, developers, electricity providers, finance and insurance companies and consultants. The combined strength of almost 200 members from over 40 countries makes EWEA the world's largest renewable energy association.

However, despite the best efforts of industry, significant progress cannot be made without the political will — either Europe-wide or here in Ireland at local level. "Renewables 2004", the international conference held in Bonn earlier this month, marked something of a milestone in that it was the first time 154 countries had come together to discuss renewables.

That said, the final outcome — the political declaration — is regarded as weak and disappointing. Concrete engagements are still missing and targets have been left out of the declaration, as was the case with the Johannesburg Summit.

Global analysis confirms this trend. Wind power has proven itself but it will take a stronger green light from Governments to expand this success worldwide. Wind power already installed throughout the world generates the equivalent electricity needs of 19 million European households. This could be increased tenfold by the year 2020, from the present €8 billion to €80 billion, if existing barriers such as grid access and administrative impediments are lifted.

In the meantime the situation here in Ireland continues to improve. Like everywhere else in Europe, a great deal more could be done at Government level to encourage and support the expansion of wind-generated energy. But, when compared with other countries, we are certainly not the worst. We have achieved a great deal to date and are now ideally poised — with the appropriate level of Government support — to capitalise on the potential wind-generated energy has to offer.
Plumb Lines

Heard it on the grapevine ...

SEBNet welcome —
Tim O’Sullivan and his SEI colleagues have come up with an excellent idea to drive the uptake of energy-efficient practices in housing. SEBNet stands for Sustainable Energy in Buildings Network and the intention is to develop joint promotional and training initiatives, while at the same time establishing recognised systems for quality assurance in product installation. SEBNet will undoubtedly result in better business for installers and product suppliers who participate in the scheme.

What a Dirty Lot!
— Did you know that the average home in Ireland spends €1300 per annum on fuel and electricity and is responsible for a staggering nine tonnes of CO₂ emissions per year.

What Value Project Specs?
— There are so many instances of projects being designed according to the highest standards, complying with all Regulations, and yet being built to standards that don’t meet the written specification one has to wonder. Intentions are all very well but are useless unless acted upon and enforced.

Refrigeration to Compete —
Congratulations to Garrett Keenaghan and his colleagues — and the students — of the DIT in Bolton Street who recently competed in the National Skills Competition. This is the first time refrigeration has been included in the national competition and, more importantly, it will be the first time someone is chosen to compete in the international skills competition to be held in Helsinki in May 2005. Well done to all concerned.

Farewell Bob Cameron — After 37 years with Hevac Bob Cameron has finally called it a day. Bob joined the company back in the days when it was known as IS Lister and has served with distinction throughout all the changes that have taken place down the years. As we in BSNews celebrate our 40th year of continuous publication, we empathise with Bob and will have a full report on his farewell ceremony in our own celebratory issue next month.

Pakistan Worst for Air Pollution — The level of air pollution in Pakistan’s populated cities is the highest in the world and causing serious health issues. The level of ambient particulates — smoke particles and dust, which cause respiratory diseases — are generally twice the world average and more than five times as high as in industrial countries.

KAT Alternative Solutions — Kerry Alternative Technology (KAT) is a unique, living embodiment of self-sufficiency. It comprises a 40-acre farm which, not surprisingly, produces enough foods and other resources for the various residents. However, from an energy point of view it is quite amazing. As of writing this there are two operational wind turbines (a 400w AirX and a 75w Rutland) with another AirX and a home built machine in the pipeline. Additionally, there is a 600w solar panel array (Siemens SMH55’s); a 1912 “Girrard” water turbine (150w on a good day); and a 1550Ah battery set and two inverters.

KAT is not just an experimental lifestyle but rather living proof that energy-efficient, sustainable alternatives do work. Future proposals include a bio-diesel production area, two more water turbines, and a cross flow for power production. If you are near Gortagowan, Sneem, Co Kerry it is worth checking out.

Is it a wall-hung plasma TV or is it a wall picture? ... no, it’s an air conditioning unit! Core Air Conditioning is now supplying this unique LG Art Cool unit. At last ... an "unit which is a genuine addition to interior design. Check it out.

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IBP Conex is respected throughout the world for developing innovative technology that is always ahead of its time.

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