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BS News

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BSN News

MECHANICAL & ELECTRICAL BUILDING SERVICES

WE NEED CHANGE

- John Ratcliffe,
Director, Faculty
of the Built
Environment, DIT

INSIDE



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BSNews*

MECHANICAL & ELECTRICAL
BUILDING SERVICES

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

Ratcliffe Tells It Like It Is!

How refreshing ... in the person of John Ratcliffe the building services/built environment industries have at last got a champion who is prepared to tell it like it is, warts and all. Even more refreshing is the fact that he is speaking from a position of authority, as one who has experience of — and fully understands — the key issues involved. Better still, he is not negative or undermining but rather reasoned, assertive and constructive.

In a specially-written article for *BSNews* John calls for significant change across the entire construction industry, and especially the services/built environment sectors. Nonetheless, what he proposes is fundamental rather than radical. It is also set against a very accurate and measured assessment of the position as it currently stands. Have your eyes opened ... read "We Need Fundamental Change" (pages 2, 3 & 4).

NEXT MONTH

IDHE: Stand Up & Be Counted

Special report from the recent extraordinary general meeting of the Institute of Domestic & Environmental Heating Engineers. New Development Plan puts it up to members.

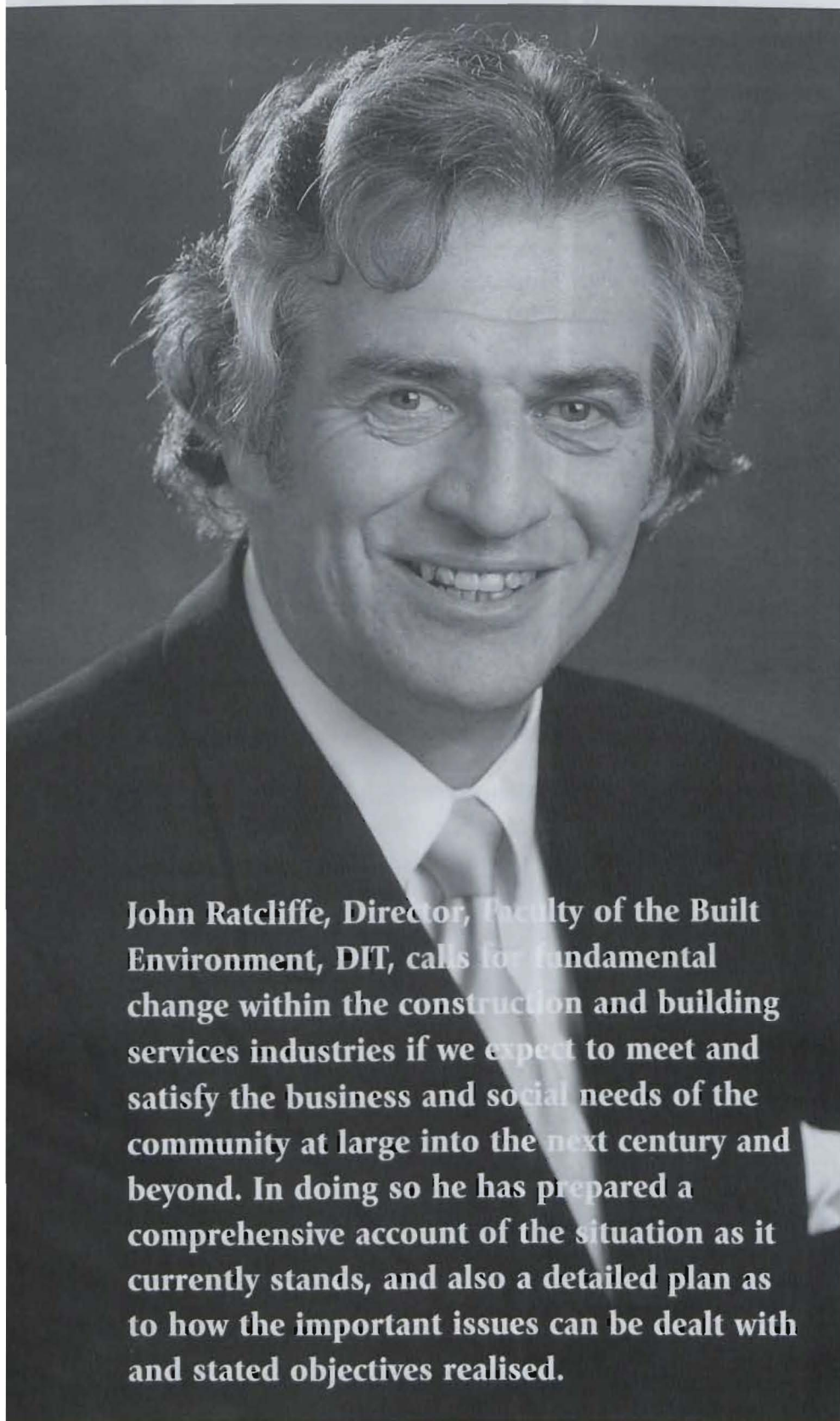
Whither Facilities Managers?

This year's IPFMA annual conference was a lively and informative affair which defined the role of the facility manager as "the practice of coordinating the physical workplace with the people and work of the organisation". To do this successfully the principles of administration, architecture and the behavioural and engineering sciences must be integrated.

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'We Need Fundamental Change!'



John Ratcliffe, Director, Faculty of the Built Environment, DIT, calls for fundamental change within the construction and building services industries if we expect to meet and satisfy the business and social needs of the community at large into the next century and beyond. In doing so he has prepared a comprehensive account of the situation as it currently stands, and also a detailed plan as to how the important issues can be dealt with and stated objectives realised.

Society is on the threshold of a period that will change the living and working environment beyond the imagination. Central to this change is the response of the construction industry in creating a built environment sufficiently adaptable and flexible to changing users' needs on the one hand, while complying with ever-increasing standards and expectations in terms of time, cost and quality on the other. As with any other industry, the key to affecting swift and productive change lies in establishing a foundation of education and training that is informed, accountable, responsive, innovative and cost-effective. World-wide, the construction industry is notoriously neglectful in this respect.

The Forces of Change

Polishing the proverbial crystal ball, it is not too difficult to define that:

Culturally – There will be a transformation in the nature of work; the house will become more than home; and health, education and leisure will emerge as major sectors of the property industry;

Demographically – The population will get older, wealthier, wiser, and more mobile;

Economically – The future value of buildings will be determined much more by function and much less by location; building specification will have to address very seriously the twin forces of adaptability and flexibility; and value for money will generally be the order of the day;

Environmentally – The goal of sustainable development will permeate every field of policy, so that advanced levels of building efficiency and enhanced standards in healthy design will increasingly be sought;

Governmentally – The market approach towards urban planning and development will slowly give way to one more sympathetic to social values and human needs, so that property development proposals will be judged as much by their community worth as by their commercial value;

COVER STORY

Technologically – Buildings of all kinds will get increasingly intelligent, and have to become ever-more flexible in terms of structure, use, expansion, divisibility, access, heating, lighting, ventilation and communication services. However, almost no other industry invests as little as construction in investigating and understanding how these forces of change might affect the future nature, structure and performance requirements of its constituent parts, and hence the future education and training needs.

The Irish Construction Industry

As a relative newcomer to the Irish scene the picture, nevertheless, seems strangely familiar, and can be summed up as follows:

- a growing recognition of the importance of the industry within the context of the economy as a whole;
- fiercely counter-cyclical forces in the demand for and supply of land, labour, materials and product;
- a diffuse and disordered collection of contractors;
- an adversarial climate for contracting procedures;
- massive variations in quality;
- a poor public image;
- education and training programmes that seem to suit no-one;
- wholly inadequate funding of research and development.

Paradoxically, however, at its best the industry can be truly excellent. In the training field, for example, the record of apprentices over the years at the International Youth Training Skills Competition has been nothing less than outstanding. Only in July this year, at St Gallen in Switzerland, Ireland was placed a meritorious sixth out of 30 competing countries, and, from a team of 16, some 13 Irish contestants won awards, including two gold medals, one silver and one bronze, as well as nine diplomas of excellence.

Moreover, anyone who saw the DIT demonstrations of construction craft skills at the recent Plan Expo will

share the pride felt by the Institute in the sheer excellence of work that can be achieved. The challenge is to transfuse the excellence throughout the whole body of the industry.

Education and Training

On a personal note, having spent just over a year getting to grips with a new role as Director of the Built Environment at DIT, a number of basic questions are beginning to take shape in my mind when contemplating our future plans and prospects. These are:

- Is the New Apprenticeship Scheme satisfying the demands of industry and the aspirations of apprentices efficiently and effectively? Perhaps an audit of some form would be timely;
- Is the industry sufficiently consulted as to present and future training needs?;
- Equally, is it sufficiently committed?;
- Is the exceptional experience and expertise at DIT in the field of construction skills best serving the needs of industry with the present

- Should a more structural approach towards post-apprenticeship education and career advancement be devised? DIT certainly sees itself as playing a major role in this respect.

In addressing these questions, the Faculty of the Built Environment at DIT is already exploring a number of opportunities, which include:

- Integrating what were the building trades departments as part of a new School of Construction within the Faculty to provide a more coherent academic and professional structure;
- Taking a series of major initiatives in the field of Facilities Management to promote and encourage excellence in the management of the workplace;
- Recognising the growing importance of building services in the development process;
- Developing programmes of continuing professional education along similar lines to the existing successful building maintenance management, plumbing technology and estimating, domestic heating and refrigeration, building maintenance management and air conditioning courses;
- Establishing specialist construction skills courses

The challenge is to transfuse the excellence throughout the whole body of the industry.

programme of education and training? Different modes, levels, awards and areas might beneficially be considered;

- Is enough being done to promote the construction industry and market the education and training programmes in the schools?;
- Has apprenticeship lost its attraction?;
- Can apprenticeship appeal more to women?;
- Is apprenticeship seen as a path for lower achievers in secondary education? If so, something must be done to champion the cause of construction careers in terms of creativity, job satisfaction, mobility, travel, and self-employment, as well as pure financial reward;

for the industry. The first Conservation Crafts course is being held this month;

- Holding an Irish-based European Construction Skills Apprenticeship Competition to complement the International Youth Skills Competition;
- Looking at best practice from vocational education in Continental Europe, such as Germany, Holland and Switzerland, to seek improvements to the current Irish system, for introduction at DIT;
- Considering the introduction of courses for the creation of the Master Craftsperson with elements of multi-skilling and small business management;

C O V E R S T O R Y

- ❑ Responding to the Draft Master Plan for the Dublin Docklands Area with a commitment towards fostering local employment opportunities in the construction industry;
- ❑ Viewing the role of the construction craftsperson in a wider context than simply that of new-build and maintenance work, so as to embrace refurbishment, conservation, environmental protection, leisure, recreation and cultural activities;
- ❑ Developing research and consultancy expertise through specialist centres such as the Consultancy and Research Unit for the Built Environment (CRUBE), the Building Information Centre (BIC) and the Timber Technology Centre (TTC);

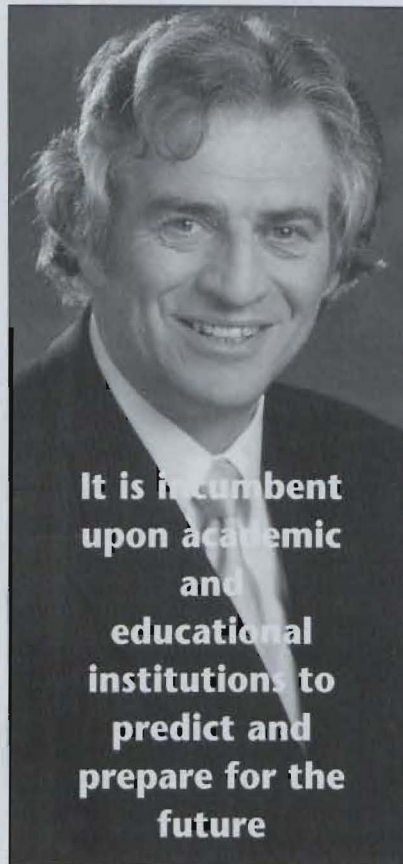
Again, the key to successfully implementing these, and other initiatives, will be the degree of collaboration and support that can be gained from the industry.

Buildings of the Future

Combining two earlier themes regarding the forces of change and the need for research, it is incumbent upon academic and educational institutions such as DIT to predict and prepare for the future. What will the buildings of the next millennium look like, and the builders of them need to know? Heeding the adage that we tend to underestimate change in the long-run and overstate it in the short, let me suggest some trends that might influence education and training for the construction industry over the next 20 to 25 years:

- ❑ Safety and security will assiduously be sought in all aspects of the property development and management processes;
- ❑ Quality, service, satisfaction and reliability will become the watchwords of the construction industry;
- ❑ Accountability everywhere, and in everything, will heighten; Value engineering will become a familiar concept throughout the industry;

- ❑ Different lifestyles and changing expectations will lead to a switch from mass market standards to niche market differentiation;
- ❑ The provision of assisted, sheltered and independent living accommodation will burgeon;
- ❑ With advances in building technology, construction cost reductions and a growing social need to address homelessness, affordable housing will become a high priority, and an actuality;



- ❑ Commercial buildings will become robust shells with infinitely-changing interiors capable of accommodating a whole range of services and facilities;
- ❑ Building specification will become more environmentally conscious; energy efficiency will be demanded, and other green priorities regarding materials, waste, recycling, water economy and similar resource-related impacts increasingly taken into account;

- ❑ Health, education, technology, sense of place and social community will be the accepted cornerstones of new urban developments;
- ❑ The quality of internal environments will also be subject to higher standards through the enforcement of tighter health, welfare and safety-at-work legislation;
- ❑ All buildings will become smarter, and the degree of smartness will be a critical factor in the economic worth and thereby market value of property;
- ❑ Prefabrication and customisation will assume more importance in the construction and development processes;

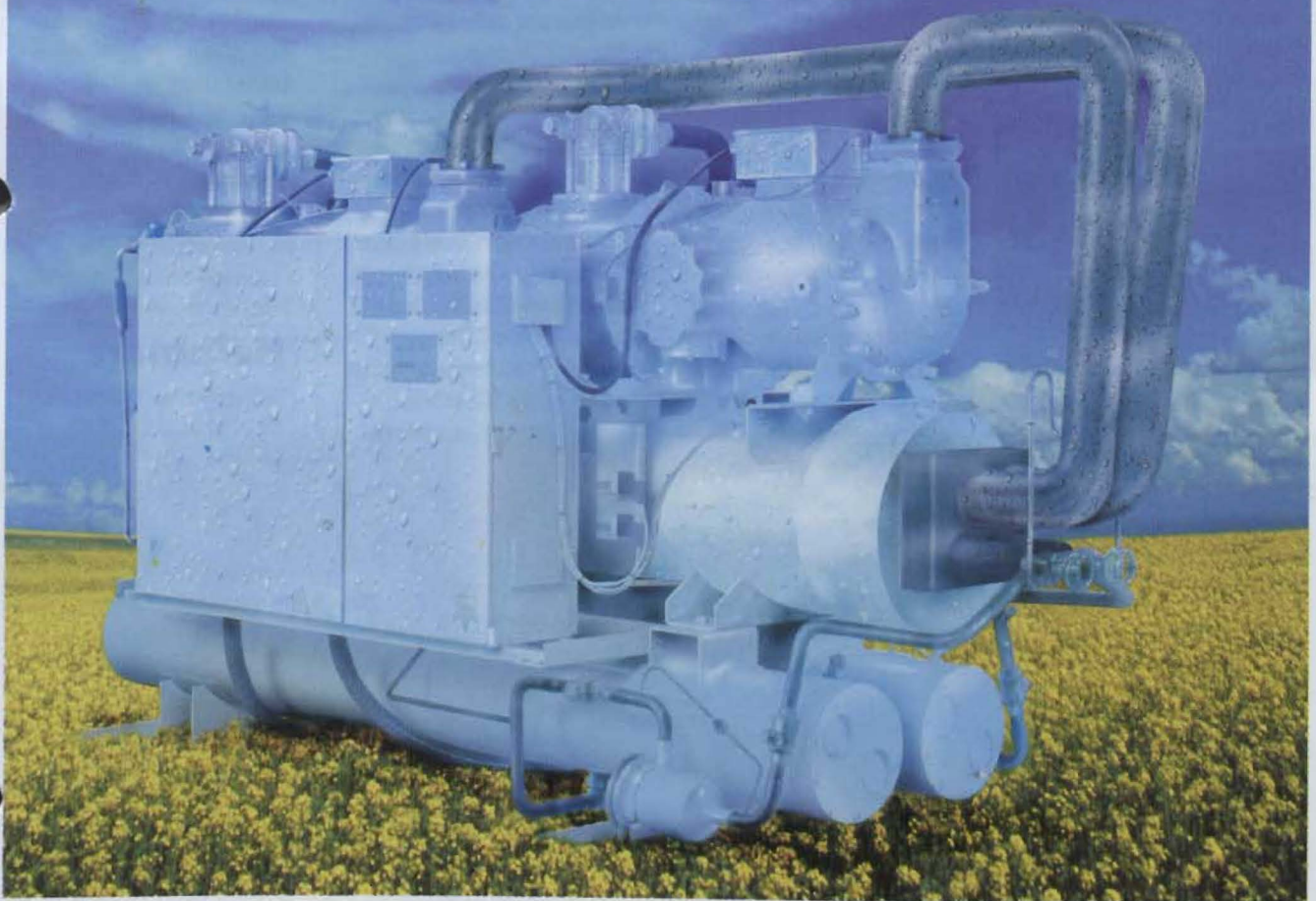
Project management and facilities management – which at heart are about information, communication and judgement – will be radically altered so as to facilitate the flow of the first two in a form to release the energies and focus the attention of the manager upon the third.

Conclusion

All the above predicates the need for solid applied research; a sound, constant and direct relationship between the industry and educational institutions; flexibility, innovation and responsiveness in designing and delivering relevant training programmes; a clear understanding of the time, cost and quality dimensions of construction education; a high profile with a credible image for the building industry; and the general integration of craft or trade-based training within the broader educational and professional framework of the construction industry. In other words, fundamental change!

The new School of Construction within the Faculty of the Built Environment at DIT, along with the other Schools of the faculty such as, Architecture, Real Estate and Environmental Planning and Management (and drawing on their particular relationship with specialist centres such as CRUBE, BIC and TTC) will seek to establish a model capable of attaining these goals. We look, however, for help, ideas and partnership from the industry we serve in their attainment. ■

We first chose a refrigerant, and then built a chiller around it.



Focus Advertising

Sounds logical, doesn't it ?

At Daikin, we design our products to the refrigerant we use. Chillers designed for R-134a should have the same capacities as their equivalent models using R22 as a refrigerant.

Daikin does not believe in drop-in chiller equipment. Therefore we redesigned the compressor, evaporator, condenser ... to offer the capacities we sell.

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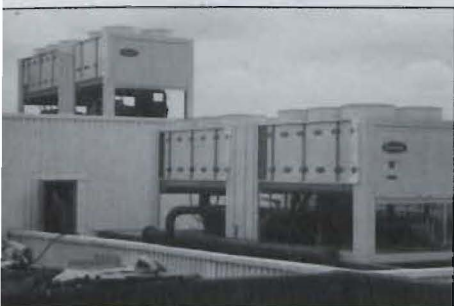


PRODUCT REVIEW

REFRIGERATION

Quality of Service and Products Underscores Core's Success

In the space of just 12 months Core Air Conditioning Ltd has gone from new market entrant to one of the more respected, successful and influential companies operating within



The two Carrier air-cooled chillers on the roof of Steifel Laboratories in Sligo

the Irish air conditioning and refrigeration sectors.

Market penetration has been considerable and has now reached the point where Core is currently looking to appoint an additional sales engineer, plus two senior service engineers.

Attention to detail and the basic fundamentals of providing a quality service — in respect of products, after-sales support and client/end-user relationships — lies at the heart of this success story.

Advice, guidance, consultation and technical support form an integral part of the Core offering. This is especially important in refrigeration where compliance with current and impending legislation needs

to be considered, and then solutions devised which meet these requirements while, at the same time, providing the most cost-effective route to achieve that goal.

There are two sides to Core's business — the distribution of products from brand-leading names such as Carrier and Liebert, and the provision of comprehensive after-sales service, maintenance and technical support facilities.

Core is fast gaining a reputation as a problem-solver of particularly difficult situations, especially in retrofit applications. More and more the company's engineers are being called in to scenarios where the consulting engineer/client has all but given up on the installed plant. In the vast majority of the cases dealt with so far Core has resolved the problem on site and, in many instances, actually increased the output/performance.

Core has also seen a substantial increase in its ongoing maintenance agreements. These lead to a reduction in plant operating downtime and can even eliminate the problem altogether. It is all about proactive, preventative maintenance rather than reactive responses to problems as they arise.

But Core is also about product distribution and the Carrier and Liebert portfolios incorporate a wide range of products designed specifically for the demanding requirements of today's refrigeration and air conditioning markets. Innovative models are constantly coming on

stream, the Carrier Global air and water-cooled chiller range being a typical case in point.

Against this background it's hardly surprising that Core's client list reads like a who's who of the leading process, pharmaceutical, chemical, electronic, commercial and industrial concerns now located throughout all of Ireland. Among them are Stafford Miller, IBM, Hewlett Packard, Jansen, Dublin Airport, Steifel, etc.

Contact: Austin McDermott, Core Air Conditioning.
Tel: 01 - 294 3110.

Helpman

Within Europe, Helpman BV is a leading producer of air coolers and air cooled condensers and is active in this field for more than 70 years.

Clients include independent cold storage fitters and producers of complete installations for refrigeration and air conditioning.

As a major manufacturer of heat exchangers for refrigeration, Helpman's professional expertise has grown in line with that of the highly-developed agricultural, meat and fish processing industry in The Netherlands.

Helpman designs and produces heat exchangers for commercial as well as industrial applications. The products are positioned in the top-quality market segment. Reliable performance, low operational costs and a long life are factors of prime importance in the design and production of Helpman products. Helpman offers a 2-year, full guarantee on all goods.

Contact: Ray Nardone, HRP Wholesale. Tel: 01 - 830 6565; Fax: 01 - 830 6153.

Refrigerants for the 21st Century

ASHRAE has published "Refrigerants for the 21st Century", the proceedings from the ASHRAE/NIST refrigerants conference held last month.

The proceedings address two environmental concerns — depletion of the ozone layer and global warming — and present the latest information on refrigerants to meet those concerns. "Global warming is a broader problem than ozone depletion because it encompasses all human activities that result in the emission of greenhouse gasses", said Piotr Domanski, conference chair.

Conference co-chairman, James Calm, noted that it is unlikely that an alternative refrigerant will be discovered or synthesized that meets all the requirements for safety, stability, efficiency, ozone-depletion potential and cost.

But several alternative refrigerants and options that meet some of the requirements are presented in the proceedings' 16 papers. These options range from "New Developments to Expand the Use of Ammonia", which reviews safety and cost concerns, to "Trade-Offs in Refrigerant Selections: Past, Present and Future", which addresses efficiency and ozone-depletion potential as well as other factors.

Another paper that reviews additional alternative refrigerants is "Fluoroethers and Other Next-Generation Fluids", while alternatives such as carbon dioxide and air and propane, are also described in the conference proceedings.

PRODUCT REVIEW
REFRIGERATION

York Makes Further Inroads in Refrigeration

In line with York ACR's continuing expansion, the company is focussing further on one of its most successful areas, ie, refrigeration sales.

Refrigeration sales world-wide account for approximately 22% of York's revenue and the Irish market - with its concentration on food processing, pharmaceutical, electronic industry, petrochemical, textiles, refrigerated warehouses and food distribution centres and sports venues - is an

ideal market base for its product range.

The comprehensive York ACR refrigeration portfolio includes screw compressors; condensers; evaporators; heat transfer equipment; pressure vessels; spiral and tunnel freezers; package refrigeration systems; hygienic air handling and distribution systems; automated panel controls and cooling towers.

An indication of the scope and diversity of the range - and its wide-ranging application capabilities - are



Frick Model RWB11 Plus 506 - 5635 m3/hr swept volume

contained in the following product examples:

Model 'GP' R22 & R717 DX (40 kW - 600 kW - water, glycol or brine). The "GP" range of industrial low-temperature liquid chillers is pre-fabricated, assembled and tested at the works. Featured are

reciprocating compressors, S&T heat exchangers, IP23 or IP55 motors and a control panel mounted on a heavy-duty base frame.

Suitable for fresh water with outlet temperatures from +8°C to +4°C and brine or glycol from +4°C to 20°C, the units are available for use with HP liquid receiver in place of S&T condenser if required, for remote air cooled application.

The evaporator and suction piping are insulated with 50mm foamed in-situ polyurethane, under polished aluminium cladding where the chillers feature low refrigerant charge 4-33kg (R717).

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PRODUCT REVIEW

REFRIGERATION

Outdoor and explosion-proof options are available.

Model 'SC' R22 & R717 DX (130 kW – 1630 kW – water, glycol or brine – The "SC" range of industrial low-temperature liquid chillers is suitable for similar applications as the "GP" but cover larger duties and incorporate the Frick screw compressor range. Chillers feature low refrigerant charge 25-81kg Max (R717). Outdoor and explosion-proof options available.

Electronic soft start/Star-Delta/Autotransformer starters can be fitted or supplied.

Frick Model RWBII Plus (506 – 5635 m³/hr swept

volume) – All models include infinitely-variable volume ratio (to reduce energy waste from under or over compression); infinitely-variable capacity control (100% to 10% of full load); and microprocessor control.

Suitable for both high stage and booster operation, differential pressure lube system and pre lube oil pump are standard with full lube or cycling lube oil pump available as options. Units supplied with or without motor.

DX or flash economisers are available as standard options with liquid injection, water cooled or thermo

syphon oil cooling. Explosion proof options also available.
Contact: Finbar Keenaghan,

Senior Refrigeration Engineer or John O'Driscoll, Sales Engineer.
Tel: 01 - 466 0177.

Daikin – Balancing the Budget and the Environment

In line with its unique position as the world's only manufacturer of both air conditioning equipment and refrigerant chemicals, Daikin is actively engaged in intensive research into ozone-friendly refrigerants and energy efficient systems that will reduce CO₂ emission and limit global warming. To this end the

production of CFC-based equipment was discontinued at Daikin manufacturing plants as long ago as 1992.

Nonetheless, Daikin's policy towards the introduction of HFC-134a-based equipment has been both cautious and methodical to ensure that all such equipment should maintain its capacity,

Danfoss Adap-Kool® Improves Performance and Reduces Running Costs on Water Chillers



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Global Chiller™: Model 30 GX, the air-cooled version



Global Chiller™ : Model 30 HX, the water-cooled version

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Tel: 01 - 294 3110; Fax: 01 - 294 3115

PRODUCT REVIEW
REFRIGERATION

remain energy efficient and offer safe and reliable service throughout its operational life.

As a direct result of this careful and considered approach towards the achievement of ideal equipment/refrigerant combinations, Daikin is now able to offer a full range of air cooled water chillers, genuinely optimised for use with R134-a and possessing the same quality and performance levels as its R22 models.



Euwab 40-60JX Daikin R-134a air cooled chillers from Coolair

All components – compressor, evaporator, condenser, dryer, oil etc – have been specially selected by Daikin for use with R134a refrigerant, making Daikin one of the only manufacturers of R-134a optimised chillers. Piping sizes and diameters have also been modified to ensure complete compatibility.

The use of specially designed components such as propellers, victaulic joints etc enables Daikin R-134a chillers to achieve low operating sound levels.

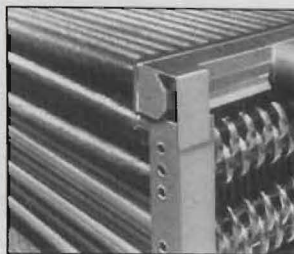
Large Daikin R-134a water chillers are the most energy efficient chiller units on the market.

Special safety and operating features include:-

- two type-tested high pressure switches;

Baltimore Aircoil – Providing Operational Efficiency and Energy Saving

Baltimore Aircoil International NV has announced the availability of extended surface coils on all of its evaporative condenser and industrial fluid cooler product lines from RSL Ireland. Use of this optional coil construction provides the equipment operator with the opportunity for operational flexibility and energy savings, with water conservation and elimination of visible plume.



Above: BAC water conservation – The BAC extended surface coil offers the ability to operate units dry during off peak or winter conditions. Details from RSL.

Operating “wet” during peak cooling season, Baltimore Aircoil evaporative condensers and industrial fluid coolers provide maximum energy efficiency through evaporative cooling to remove heat sensibly and latently. Typically, this peak season cooling requirement only lasts during 2/3 summer months.

At all other times of the year ambient temperatures, and often the cooling load, are reduced. As this occurs, the use of an extended surface coil allows the heat to be rejected in the sensible or “dry” mode. The extended surface coil is usually selected so that the evaporative cooling equipment can operate in the “dry” model for 50% or more of the operating hours.

The patented Baltimore aircoil heat transfer coil with the extended surface construction, utilises a specially-wound, footless, steel fin on some or all of the tubes making up the coil. The size and spacing of the fins are optimised by Baltimore Aircoil to achieve a trouble-free performance at an optimal cost/performance ratio. The complete coil assembly is hot-dip galvanised after fabrication, giving excellent corrosion protection and a powerful mechanical and thermal bond between the fin and tube.

The concept provides for water conservation by allowing “dry” operation during off-peak or winter conditions. During these periods, the recirculating pump can be shut off and the equipment basin drained, which saves water and eliminates water treatment costs. The need for expensive basin water freeze protection systems can be avoided as well.

The extended surface coils can also be used to eliminate the visible plume which is characteristic of evaporative cooling equipment operating in cold weather periods. A psychometric analysis can be performed in the equipment selection stage to identify periods of high plume potential. If plume elimination is required, the most economic solution is the use of extended surface coils.

Contact: Gerry McDonagh, RSL. Tel: 01 - 450 8011.

- | | |
|---|--|
| <ul style="list-style-type: none"> □ low pressure protection; □ compressor motor thermal protection; □ compressor motor overcurrent relay; □ discharge temperature controller; □ service port on insulated suction pipe and on liquid dryer; | <ul style="list-style-type: none"> □ anti-recycling and guard timer; □ pressure relief valve on compressor; □ reverse phase protector; □ emergency stop; □ liquid and discharge stop valve. <p>Contact: Brendan Kilgallon, Coolair.
Tel: 01 - 451 1244.</p> |
|---|--|

McQuay Air Cooled Screw Chillers

McQuay's air cooled ALS range of chillers is a new and unique type of chiller using the StarGate single-screw compressor.

Manufactured by McQuay to satisfy the requirements of consultants and other specifiers, the units are designed to minimise energy usage while maximising refrigeration capacities.

“This innovative and advanced technology has many advantages over other types of chillers”, says Aidan Lynch, Managing Director of Thermo Systems, distributors of McQuay HVAC products.

“This is hardly surprising given that McQuay is the third largest global manufacturer of chillers with annual sales in excess of £2 billion”. The fact that the StarGate single-screw chiller has only three moving parts means it is virtually maintenance-free. It is also site serviceable, unlike dual-screw compressors which must be removed from site and returned to the factory or workshop for maintenance. With unit COP levels as high as 6.2 for some models, McQuay screw chillers are the most efficient on the market. Less power consumption is inherent in the single-screw compressor design. The StarGate motor is liquid-refrigerant cooled, allowing it to operate at consistently-lower temperatures than motors cooled with suction gas.

The McQuay StarGate single screw compressor

CLIMAVENETA

A Full Range of Air Cooled and Water-Cooled Chillers

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W R A T (Models 151 up to 4808)

Capacities – 35 up to 1150Kw

UNIT DESCRIPTION

This series of air cooled water chillers, equipped with propeller fans, has a wide range of applications. They are units whose characteristics make them suitable for outdoor installation. The compressors are housed in special acoustically-insulated protection case. Insulation of the exterior located evaporator incorporates a surface treatment that provides protection against the elements.

This range of chillers is also available with screw compressors.



W R A T - F C (Models 351 up to 2404)

Capacities 84 up to 563Kw

UNIT DESCRIPTION

These units are intended for situation where the need for chilling capability continues throughout the cold months, or when the ambient air temperature is lower than the return temperature in the system. For this reason, when the system is "free-cooling", the fluid is cooled by means of the external air, thus reducing the load on the compressors or even completely substituting them. The necessary cooling capacity is therefore obtained with almost zero energy expenditure (FREE-COOLING 100% = cop 25). These are units whose characteristics make them suitable for outdoor installation.

This range of chillers is also available with screw compressors.



W R H (Models 151 up to 4170)

Capacities 41 up to 1694 Kw

UNIT DESCRIPTION

This series of liquid chillers, which are cooled either by tower or well water, can be used in large-capacity systems that require the use of large-size compressors. Especially noteworthy is the possibility, in models with heat recovery, of having hot water during operation as chiller. They are particularly compact units, with all their components easily accessible, and are designed for installation in covered sites sheltered from the elements.



F E - W R A T (Models 1802 up to 6404)

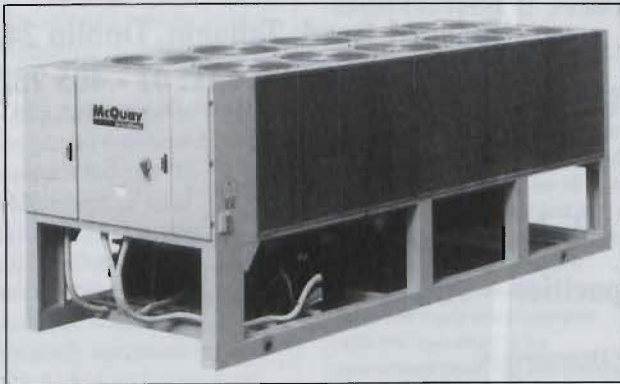
Capacities 393 up to 1269Kw

UNIT DESCRIPTION

This series of air cooled liquid chillers has been introduced by Climaveneta to give all the features of their standard range such as compressor enclosures and double control panel doors as standard. But are manufactured with painted galvanised sheet metal to give the customer the option of having a more competitive price.

PRODUCT REVIEW

REFRIGERATION



The McQuay air-cooled screw chiller range has capacities ranging from 410kW to 1164kW. Details from Thermo Systems

chiller totally eliminates oil management and oil equipment problems. Instead of oil, StarGate utilises liquid injection refrigerant to cool, seal and lubricate the compressor. This provides low discharge temperatures, an effective seal for compression, and complete tolerance to liquid slugging. It also enhances overall chiller reliability.

With dba levels two to four times lower than twin screw designs, the StarGate compressor removes a major complaint from chiller installations. Composite gaterotor materials, smoother and more frequent compression cycles, a tuned sound attenuating discharge housing, and elimination of oil equipment all contribute to far quieter chiller operation. Also, because the moving components are purely rotational, dynamic forces are minimal. Maximum vibration ratings for StarGate compressors are below 0.1 inches per second.

MicroTech controllers supplied with StarGate chillers feature advanced, fuzzy logic control based on

approximate reasoning. Any change in suction line superheat instructs the electronic expansion valve to adjust, providing more precise and stable temperature control of the chiller system.

With one of the smallest footprints in the industry most StarGate models require much less horizontal space than comparable twin-screw or reciprocating machines. They are also easier to install.

Contact: Aidan Lynch, Thermo Systems.
Tel: 01 - 492 5340;
Fax: 01 - 492 5342.

Water Chiller Retrofit

Water chillers are often used in installations where precise and reliable cooling is required day after day. These applications include mainframe computer installations, telephone exchange systems, industrial process plants and comfort cooling systems. Such installations benefit greatly from the increase in precision, performance, reliability and lower running costs that an AdapKool® control system can give.

The Adap-Kool® upgrade has a very short average payback time of one to three years, depending on plant operating conditions, load situations, energy costs etc.

A conventional water chiller is dimensioned for a fixed ambient temperature. In most climates, this temperature varies considerably between the seasons and between day and night. By continuously adapting the condensing temperature to the ambient temperature (floating condensing pressure)

J J Sampson & Son can lower the condensing temperature significantly in most working situations and hence obtain a greatly reduced energy consumption.

The reduction is in the range from 20 - 30%, depending on compressor type and operating conditions. Such reductions are attained only when the conventional thermostatic expansion valve is replaced by an electronically-operated expansion valve (AKV).

The Adap-Kool® control system for the regulation of water chillers maintains a constant superheat with continuous optimisation. This allows the full benefits of lower and optimum suction pressure to be realised. The adaptive superheat control also ensures optimum efficiency - even at part-load conditions.

The Adap-Kool® control system is an open system. A basic system therefore can be extended in numerous ways to suit individual requirements, eg for remote monitoring, for PC-based operation, and for data logging.

Contact: Dave Killalea, J J Sampson & Son Ltd.
Tel: 01 - 626 8111.

Clivet Air-Cooled Screw Chillers up to 1600kW

Clivet's new chiller series - incorporating Daikin semi-hermetic screw compressors - consolidates Coolair's presence in the market for large air conditioning and refrigeration chillers.

This new series has been designed specifically to ensure maximum energy efficiency, reduced overall dimensions and low noise levels, together with optimum flexibility in use. The large number of sizes available allows for the selection of the chiller unit which satisfies the right installation requirements. The series has been designed for R22 refrigerant and has been optimised also for the use of R134 in respect of the environment and to anticipate future legislation requirements.

Different configurations have been foreseen for low noise operation. These include standard, low noise and extremely low noise variations.

The series includes the following versions - heat pump with reversible refrigerant circuits; total heat recovery; partial heat recovery with desuperheaters; brine chiller.

Contact: Brendan Kilgallon, Coolair. Tel: 01 - 451 1244.



Above: Model WSAT air-cooled water chiller from Coolair



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Model 'SC' R22 & R717 DX
130 kW – 1630 kW – water, glycol or brine



Model 'GP' R22 & R717 DX
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Frick Model RWBII Plus
506 – 5635 m³/hr swept volume



Model YNWS centrifugal compressor suitable for R717
400kW to 2200kW. Over 30 models available

For further information contact:



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Tel: 01 - 466 0177; Fax: 01 - 466 0198

**Unit 19, University Hall Industrial Park,
Sarsfield Road, Wilton, Cork.**

Tel: 021 - 346 580; Fax: 021 - 346 586

PRODUCT REVIEW
DOMESTIC BOILERS

The Case for Condensing Boilers

Frank Forde, Managing Director of Keston Heating Products Ltd, clarifies the facts about condensing technology, and explains some of the benefits.

Condensing technology is not new. However, it is only in the last 15 years or so that condensing boilers have been introduced as a commercial viable appliance. Prior to this, there was little concern for energy conservation or environmental issue.

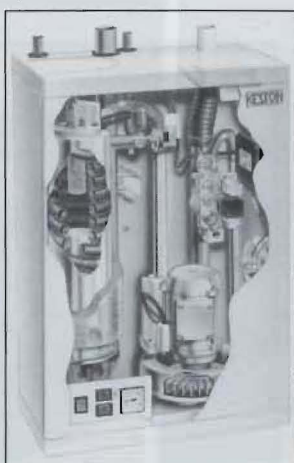
Originally, boiler heat exchangers were deliberately made small to ensure all the water vapour produced was carried away in the flue gases.

Today's condensing boilers use either one extra large heat exchanger or a second additional heat exchanger made of robust material such as super alloy stainless steel.

How they work

To overcome inefficiencies associated with conventional boilers, condensing boilers are designed to extract more heat from the same amount of fuel; dramatically increase efficiency by reducing the temperature of the flue gases; and absorb more heat, including latent heat, which would otherwise go out through the flue. This extra heat is returned into the system.

Condensing boilers can be used for exactly the same applications as conventional boilers and are suitable for installation in any size premises. They



Cut-away section of a Keston condensing boiler

are also simple to install, maintain and operate. However, because the condensing boiler does not dispose of the water vapour through the flue gases, a small drain is required. This can be the most convenient internal bath/kitchen wastepipe or drain outside.

Condensing boilers are equally suitable for use in new systems or as replacements for old systems or as replacements for old appliances, and will operate with existing pumped systems.

At the same time as saving energy, condensing boilers contribute to the environment by the very fact that they use less fuel and keep emissions into the atmosphere to the absolute minimum.

Although gas is one of the cleanest commercially

available fuels, its combustion produces oxides of nitrogen. An average conventional boiler emits NOx levels of around 150ppm (parts per million), whereas low NOx condensing boilers can limit emission to around 5ppm. This is increasingly important as ever-more stringent European legislation on emissions is likely to be introduced in the future.

Some modern condensing boilers require only standard 40mm mUPVC plastic kitchen wastepipe for the flue material. This is

particularly relevant in refurbishment projects and replacement systems where costly re-lining of the existing chimney/flue may otherwise be essential.

Condensing boilers are compact in design, so can even be installed where space is at a premium. Wall-mounted models fit neatly with standard kitchen units or in most inaccessible areas. Although a little more expensive to purchase than conventional boilers, payback time is estimated at two to four years. After that annual fuel savings of up to 30% can be achieved.

The Case for Oil

A very large range of oil fired boilers is available to meet every requirement. These range from wall-mounted or floor-standing models for installation in utility rooms and kitchens, to outdoor models which do not require a boiler house. A number of oil-fired cookers available have boilers which are powerful enough to provide full central heating.

Oil fired boilers are available with conventional open flues or with balanced flues. For installation in boiler houses, most floor-standing boilers are available with alternative type casings.

A varied range of oil fired coal-effect fires are now produced. Many of these have very realistic flame effects.

Efficiency

Most oil fired boilers use the highly-efficient pressure jet burner. These boilers can operate at efficiencies in excess of 90%, which makes them among the most

efficient boilers available. Modern oil fired burners are significantly smaller in size and much quieter than their predecessors.

The main improvement in boilers comes from the greatly-improved burners which they use. The pressure jet is highly efficient but simple in operation. It operates largely independently of flue conditions and is easier to maintain than older types of burner.

Upgrading Systems

Many oil systems in Ireland are nearing the end of their lives and need refurbishment or upgrading. It is generally more beneficial to the customer to upgrade to a new oil fired system as all infrastructure is available and installed. Upgrading to a new oil system will also be more cost-effective than changing the fuel used. Generally, consumers can save in excess of 15% of their costs by upgrading to a modern efficient system.

PRODUCT REVIEW

DOMESTIC BOILERS

This represents a major opportunity for the heating trade to play their part effectively and profitably in the upgrading of home heating systems.

System Maintenance

Research carried out by the Domestic Heating Oil Council (DHOC) indicates that only 50% of domestic heating systems are regularly serviced. This points to a large potential for increased activity in this area for the heating trade. The offering of competitively-priced service contracts will give a steady source of income for service engineers, and will have spin-off in giving opportunity for system upgrades and replacements. It will also reflect well on the industry as a whole and increase the perception of the industry as one that is consumer oriented.

Domestic Heating Oil Council

The Domestic Heating Oil Council (DHOC) is the representative body of a number of major oil distributors. Established in 1988, the Council initially confined its activity to the Dublin area. In the recent past it has expanded its

activity and now represents a number of distributors in Cork, Limerick and Galway. It is supported by a number of leading oil companies including Esso, Shell, Statoil, Burmah, Campus and Emo.

The DHOC engages in advertising, surveys and promotional work on behalf of the home heating industry. It maintains a panel of installers and service engineers nominated by its members.

The Council is also heavily involved in initiatives with FAS and others to improve the training opportunities available to service engineers. It works closely with OFTEC and has been involved in joint participation with OFTEC at exhibitions.

DHOC claims that oil is the safest and most economical fuel on the market today. Advances in technology now make it possible for the heating trade to offer the best available technology in oil fired appliances to the consumer at competitive prices. The final DHOC message to installers and service engineers is go for oil, you know it makes sense.

The Case for Natural Gas

Because it's so popular throughout the world, natural gas boilers are extremely well developed, both from a technical viewpoint and in terms of size and styling to suit modern house types. Most people put their gas boiler in the kitchen or utility room. They are compact, quiet-running and fume-free.

Conventional gas boilers reach efficiencies of over 75% and the new condensing gas boilers give over 90% efficiency. Time and temperature controls provide automatic heat at times that suit individual needs while still offering the facility to revert to the simple on/off switch if there is an unexpected cold spell. The fuel supply is

Domestic Boilers Feature Continues on page 29

When it has to be Oil
it has to be ...



The new RS room-sealed balanced-flue boiler from Worcester Bosch is the latest to be added to their Heatslave oil fired Combi range

Heatslave Combi

- * Outstanding fuel economy
- * High efficiency boiler and heat exchanger
- * Optional built-in 7-day electronic programmer
- * Instant hot water on tap

Utility Range

- * 3 Models
- * 50,000-110,000 Btu/Hr
- * Supplied for boilerhouse/utility room
- * Variety of flueing options - low level/conventional flue

Danesmoor

- * Compact design
- * High performance burners and heat exchangers
- * Choice of CF and RS models
- * Optional 7-day electronic programmer
- * Quiet operation
- * Variety of flueing options
- * Sealed system boilers also available

Distributed by:



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Tel: 01 - 450 8166; Fax: 01 - 450 8501.



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- Applied in minutes, saves hours.
- Compatible with all Fernox products.
- Ideal for combination boilers.
- Completely safe to use (non-acidic neutral formulation).
- Harmless to the environment

Superconcentrate CENTRAL HEATING PROTECTOR

- ★ Prevents build-up of black sludge, the major cause of central heating problems.
- ★ One shot gives long-lasting protection for the entire system.
- ★ Cuts fuel bills.
- ★ Stops frequent venting.

Superconcentrate BOILER NOISE SILENCER

- ★ Silences noisy boilers, knocking and kettling.
- ★ Improves heat transfer efficiency of your boiler.
- ★ Saves on repairs and cleaning costs.

Superconcentrate CENTRAL HEATING LEAK SEALER

- ★ Seals most weeps and small leaks, wherever they are in your system.
- ★ Saves time and money on draining down and repairing.
- ★ Does not cause blockages of pumps, air vents, etc.

Superconcentrate CENTRAL HEATING RESTORER

- ★ Removes black sludge, the major cause of central heating problems.
- ★ Restores heating efficiency.
- ★ Universal cleanser for systems of all ages.
- ★ Easy to use - system can be left running normally during cleansing.



FOR FURTHER INFORMATION CALL THE FERNOX HOTLINE ON
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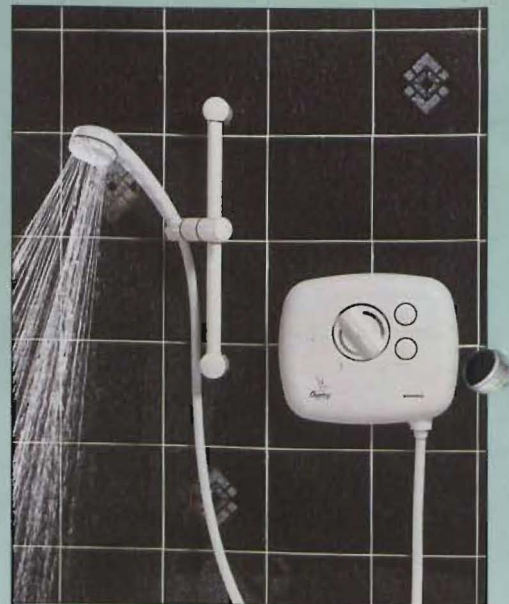
WATERMILL

PERFORMANCE SHOWERS & BOOSTER PUMPS

'Osprey' – an integral power shower. A powerful yet controllable high performance shower, which comes complete with riser rail, handset and hose.

Advantages of Low Voltage Shower Pumps

- ◆ Transforms the performance of standard gravity-fed water systems;
- ◆ Low voltage transformer means pump can safely be installed in underbath or shower areas;
- ◆ Low noise;
- ◆ Fully automatic;
- ◆ Easy to install;
- ◆ Complete with flexible hoses;
- ◆ Five models from low to high pressure for a really enjoyable shower.



Where the water level in the cold water storage system is below the level of the shower outlet, a "negative head" system exists. A special negative head kit can be supplied for all models.

The Surrey Flange is designed to provide an independent hot water supply from an air free position within the cylinder, and help reduce the effects of trapped air and water vapour, reduces surging, sudden flow, temperature changes and noise.

All Watermill products are backed by a "no quibble" two-year guarantee.

Every product is supplied with comprehensive, easily understandable, illustrated installation instructions. For sales, service or technical advice ring 01 - 677 1801.

For further information contact:
Unidare Heating & Plastics Ltd
Jamestown Road, Finglas, Dublin 11.
Tel: 01 - 677 1801; Fax: 01 - 834 6419



Serving You from Your Local Base

Unidare is a name which is instantly-recognisable — and respected — by virtually all in the construction and related building services industries. Its standing as a manufacturer and distributor of leading-brand products across all product categories is well established and based on many years of unbroken delivery of service excellence.

Unidare Heating & Plastics is a traditional company embodying all

the strengths associated with successful companies of long-standing. Nonetheless, it is also dynamic and vital. These attributes are especially important in today's competitive marketplace and it is

against this background that Unidare Heating & Plastics has just embarked on its most ambitious development phase to date.

This process commenced with the management buy-out of Unidare Heating & Plastics, along with Walmac, the UK distribution arm and Unidare Plastics, the Northern Ireland-based manufacturing arm, in 1996. Together, these now constitute the UP Holdings Group with an annual turnover of approximately £30 million.

The development process and growth pattern has continued apace since then, entering a new stage this

month with the opening of the company's first ever localised feeder depot outside of Dublin at a strategically-located site in Cork. This is but the first of a number of localised feeder depots which will open on a phased basis over the coming months and years at sites specifically chosen to ensure nationwide coverage from local outlets.

"Service excellence is paramount to the Unidare Heating & Plastics philosophy", says Cork Regional Manager Donal O'Leary, "and this new facility ensures that we live up to that customer promise. Apart from being physically located in the heart of the marketplace we are serving, it also means that we have our finger on the pulse of needs which are particular to the region, and can therefore better respond to, and even anticipate, what's required. This is further reinforced by the fact that both myself and Stores Controller Alan McGeough are locals, while area representative Henry Perrott has served the Munster region for probably more years than he cares to remember!

"In each of the product categories we serve we supply only the highest-quality, market-leading brands. Complementing this strength is a tailor-devised support infrastructure which guarantees product availability at the time, and to the location, designated by the customer.

"To achieve this objective we carry considerable stock quantities at this new 6,000 sq ft, localised feeder depot where there is as much again of uncovered storage capacity given over to plastic pipe and related products.

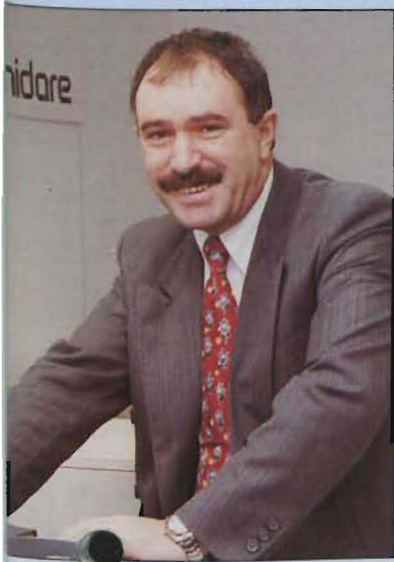
"An added facility is the purpose-designed showroom where representative samples taking in the entire product portfolio are displayed *in situ*.



Henry Perrott, Area Representative

"Unidare Heating & Plastics has a strict 'trade only' supply policy and merchant customers and trade stockists from within our catchment area either collect the goods themselves, or get us to deliver to site. To ensure maximum flexibility, instant response and total coverage, we use a number of established registered contract hauliers for all deliveries. To this end the choice of location was critical and we were fortunate to find the ideal premises at Link Road, Poulavone, Ballincollig, Cork which is convenient for the city and all other primary routes to West Cork, Kerry, Limerick, etc."

Nonetheless, the foregoing would fail miserably were it not for the other vital ingredient ... people. More and more trading relationships depend on people interaction and inter-personal relationships. Unidare Heating & Plastics is very strong in this respect and puts as much emphasis on the quality of the manner in which service is provided as it does the portfolio itself (see over).



Donal O'Leary, Regional Manager



Alan McGeough, Controller, Stores

Unidare Showers

The new generation of Unidare showers was designed exclusively for the professional. It is a superb range which is attractively styled and utilises the latest technology to provide high performance with economy. There are various models to choose from, depending on the end-

use requirement. Designed to make installation easy with multiple cable and pipe entry points to suit almost every site requirement, each pack comes with full fitting instructions. Every Unidare

shower unit is individually tested for safety and quality of workmanship, complying with the British Electrotechnical Approvals Board (BEAB) safety standard. The manufacturer has BS5750 (Parts I and II), the most rigorous of quality assessments.

A "no quibble" guarantee covers the entire unit for a period of two years from the date of purchase.

Electric showers are renowned for their economy. With most Unidare models featuring power selectors, there is the added option of choosing a lower power setting during the summer months making them even more economical.

Unidare has a fully trained service team ready to provide advice and answers to any technical queries about the product or installation.



Watermill Shower Pumps

Watermill's pumps feature quiet operation and low voltage safety isolation allowing the pump to be positioned virtually anywhere, even under the bath. The new range of pumps – SS25DLV, SS45DLV, SS90DLV and the single impeller model SS55DLV – are all supplied complete with safety isolation low voltage transformers.

All Watermill pumps are supplied with comprehensive illustrated installation instructions and the unique "Guarantee of Correct Installation". This acts as a helpful guide to the installer and ensures the customer that the most serious installation mistakes have been avoided.

The pump bodies and all waterway parts are moulded from WRC approved "scale free" acetal copolymer plastic. Mechanical carbon/ceramic seals are used to ensure freedom from leaks and long operating life.

All Watermill low voltage pumps are powered by permanent magnet DC motors for efficient and quiet operation.

The flow switches are an integral part of the pump, permanently connected to the control circuit. They have a sensitivity of 0.5 litres/min, typically 5-6 inches head of water.

Inlet and outlet connections are 3/4" BSP, the pumps being supplied as standard with matched flexible hoses, filters and washers. Every pump is "wet" tested for performance, overpressure stress checked, and carefully inspected for leaks.



Watermill Power Showers

The Osprey range of powered showers from Watermill offers a powerful, yet controllable, high-performance shower that gives economical running costs, precise temperature control, and fast warm up.

For safety and silence, Osprey operates on low voltage. The low voltage safety isolating transformer is located outside the bath/shower area (normally in the loft or airing cupboard), ensuring no electrical



hazard, making it easy for the installer. The large diameter mixer control knob allows precise temperature control.

The Osprey PC5000 is supplied with "easy clean" handset.

By simply twisting the handset retainer ring, the rubber spray plate comes out for rinsing. This overcomes the biggest problem in showering ... blocked spray holes, especially in hardwater areas.

Riello Burners

Riello burners need no introduction to the building services industry. Renowned the world over as one of the foremost burner manufacturers, Riello burners lie at the heart of all manner of commercial and domestic heating systems.

Riello 40 typifies the strengths of the comprehensive range, and the many benefits provided. Brief details of this portfolio – which can be divided into the following categories – are as follows:-

Riello 40: gasoil and Kerosene versions – The new Riello 40's are without doubt among the best burners that modern design techniques, wedded to advanced technology, can offer. There are six gasoil models, carefully range-rated, and covering firing rates from 10,000 to 200,000 kcal/h;

Riello 40: blown gas version – This series comprises four models which cover an output range of 9,500 to 200,000 kcal/h;

Riello 40: dual fuel version –



Riello 40 is an extensive range incorporating gasoil, blown gas, dual fuel, and special applications versions

Developed for the commercial burner market, the two models that comprise this range cover firing rates from 35,000 to 170,000 kcal/h;

Riello 40: special applications – This special version of Riello 40 fuel oil burners includes three models with firing rates going from 25,000 to 170,000 kcal/hr.

Unidare Plastics

Unidare Plastics Ltd has its manufacturing base in a modern factory in Portadown, Northern Ireland. It produces a wide range of quality uPVC products for use in the water industry in Ireland and the UK.

The manufacturing base has been established since the late 1950s and with current market demand for quality, reliability and service, Unidare continues to invest in research and development, new technology and working practices for the future. Consequently, new and improved products are constantly being brought to the marketplace.

A typical example is Unidare's uPVC Pipe unplasticised Polyvinyl Chloride pipe which complies with BS 3505 : 1986 and IS 123 : 1964 the Irish local



government approval scheme for PVC pipe for cold water services. All products are subject to rigid testing and quality monitoring.

Other products in the Unidare Plastics range include Hydrodare polyethylene cold water services; Unidare uPVC Watermain; Unidare underground drainage pipe; Unidare general purpose ducting; Unidare telecommunication ducting systems; Unidare cable TV ducting and fittings.

In recognition of Unidare's quality and reliability, all products are manufactured under the Quality Management System to BS 5750, accepted by the British Standard Institute.

Unidare Environmental

"At the Heart of Heating" is the Unidare Environmental slogan and the scope of the product portfolio, coupled with the quality of the individual items, fully reflects the sentiments of this claim.

All in all there are six specific product categories within the range and a total of 35 different individual items. There is also a full range of accessories such as a metal shelf kits for the storage heaters and a special T-bar control which is available free of charge to those suffering from arthritis. Brief details of the extent of the product portfolio, and the areas of application, are as follows:

Storage Heaters — The WMF fan-assisted collection. Ratings go from 1.43kW to 2,88kW;

Oil and Gas Burners



Pressure Jet Oil Burners

ST97	1,2 – 2,6 kg/h	14 – 31 kW
ST108	1,5 – 2,9 kg/h	18 – 34 kW
ST120	2,0 – 5,6 kg/h	24 – 66 kW
ST133	2,0 – 10,0 kg/h	24 – 119 kW

Blown Gas Burners

STGI20	14 – 60 kW
STGI33	25 – 105 kW

Precision Heating Ltd, Unit 19, Airways Industrial Estate, Dublin 17.
Tel: 01 - 842 8763; Fax: 01 - 842 8820

Precision Heating are proud to be associated with Unidare

Simple to Specify. Easy to Install.



Free Heating Design Service
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Unidare Storage Heaters A Proven Choice with

- ◆ Local Authorities
- ◆ Housing Associations
- ◆ Builders & Contractors

For refurbishment and new
build projects


UNIDARE
ENVIRONMENTAL

The WMC range of combination heaters. Ratings go from 1.43kW to 2.88kW; The WMX range of manual storage heaters. Ratings go from 0.72kW to 2.88kW; Completing the line-up is the WMX 706 "Baby Heater".

option. Ratings go from 6.57kW to 14.79kW.

Downflow Heater — The DFW2000A downflow heater is a compact, wall-mounted, fan heater which is simple to install and use. It provides effective heating in kitchens and bathrooms, an internal switch allowing for selection of 1kW or 2kW output.

Heated Towel Rail — The TR90 towel rail is oil filled and electrically heated. It warms towels and provides low level background heat in the bathroom.

Plinth Heater — The BU242 fan heater is designed to fit into the plinth in kitchens or shop display units to provide instant, controllable, heat.



The WMX 720w "Baby Heater" storage heater, shown here with the optional towel rail fitted.

Panel Heaters — The WMP/WMPT panel heater ranges incorporate a new approach to panel heating based on an innovative vertical format designed to save space. Manual and timer versions are available throughout the entire range. Ratings go from 0.75kW to 2kW.

Electricaire — Electricaire is a cost-effective heating solution designed for commercial, domestic and light industrial applications. It is a warm air system, operating on the stored heat principle, with a fan to discharge the heat. A "cool kit" to ensure low-surface temperatures is available as an

Caradon Terrain

Caradon Terrain Ltd is one of the largest manufacturers of PVC-u drainage systems and the benchmark for the industry in terms of quality and service. A long-standing partnership with Unidare has seen Terrain rainwater, soil, waste and buried drain systems extend their presence throughout Ireland. Now a new name, Rymway, is available from the same stable, to give the specifier and installer even greater choice.

Rymway soil and waste systems provide popular push-fit components in either ABS or PVC-u. Available in the most popular colour, grey, Rymway has a "down to earth" price and will impress the customer seeking quality and value for money.

Terrain above ground systems comprise high-quality rainwater, soil, waste and buried drain. Three rainwater systems are available – Crescent true half round; Corniche, and Streamline rectilinear systems. High performance is also intrinsic to Terrain's soil and waste systems which are designed for residential, industrial and commercial applications.

In addition to an excellent range of products, the Technical Services Department at Terrain provides the specifier and installer with support at every stage of the contract, including access to an advanced CAD service and the fabrication of components for special requirements/difficult applications.



Adamsez Baths

Adamsez is one of Europe's oldest bathroom manufacturers, dating back to the middle of the last century. The company has always been renowned for innovative design and quality of manufacture, and its products grace hotels, palaces, and homes of the discerning throughout the world.

Adamsez offers a superb range of quality bath tubs that are manufactured to the highest standard of excellence from the finest of materials. Each bath in the collection is designed for comfort. They are deep, with excellent shoulder room, and are further enhanced when fitted with an Adamsez whirlpool system.



The range includes standard sized baths through to spacious double-ended baths for those who want a truly luxurious soak.

Left: From the Adamsez collection of offset corner baths by Unidare

Lokweld

The Lokweld range comprises competitively-priced general purpose welding consumables and accessories. Lokweld welding electrodes are ideally suited to general purpose fabrication and repair and maintenance applications.

Lokweld E6013 mild steel welding electrodes offer exceptional operability, excellent weld pool control, low spatter and easy slag removal, all features which will be appreciated by any welder. The electrodes are ideal for fillet welds and butt joints and can be used in all positions.

The Lokweld range of welding accessories – which includes welding screens, electrode holders, earth clamps and welding gloves – are all manufactured to the highest standards and are CE approved.

Bentone

Bentone is one of Europe's largest manufacturers of oil and gas burners. Their burners range from 15 kW to 2430 kW. Bentone produces both Bentone and Electro oil burners and is part of the Wolseley Group, the world's biggest heating equipment distributors.

Bentone has recently launched its highly successful ST range of burners in Ireland. The new ST burner sets the standard for room-sealed boiler design. Reliability and ease of maintenance make the ST series very popular with the trade and have enabled Bentone and Precision Heating to increase their share of the Irish market.

Precision Heating has represented Bentone in Ireland since 1964. Precision Heating is renowned for its service and provides a full range of technical, installation advice and on-site assistance.



Tern Thermostatic and Manual Valves

The Tern TS1500 range of thermostatic mixing valves is designed to satisfy a wide variety of different installation needs, for domestic, professional and institutional users.

A single control operates the shower and, once set, Tern's thermostatic control technology maintains the chosen temperature, regardless of other water users. An added security feature is the Tern TS1500 failsafe which instantly shuts

Lokweld

et al.: BS News

GENERAL PURPOSE WELDING CONSUMABLES AND ACCESSORIES

All Lokweld welding electrodes are made to exacting quality control standards and are suitable for general purpose fabrication, repair and maintenance applications.

Benefits include

- ◆ High quality
- ◆ Exceptional operability
- ◆ Excellent weld-pool control
- ◆ Low spatter
- ◆ Easy slag removal

Accessories include

- ◆ Welding machines
- ◆ Electrode holders
- ◆ Chipping hammers
- ◆ Wire brushes
- ◆ Head shields (fixed and flip-front)
- ◆ Hand shields
- ◆ Lens (filter, clear and backing)
- ◆ PVC welding screens



Unidare
HEATING & PLASTICS

Unidare Heating & Plastics Ltd,
Jamestown Road, Finglas, Dublin 11.
Tel: 01 - 677 1801; Fax: 01 - 834 6419

Tern

CD1500 Showers

The Tern CD 1500 shower features a single lever ceramic disc manual blending valve, providing accurate and positive operation, of both flow and temperature control. With three choices of surface or recessed installation, the CD1500 can be coupled with a wide selection of shower kits from the Tern range, including slider rail and shower handsets or fixed overhead roses, suitable for low or high pressure showers and many with three choices of different shower modes.



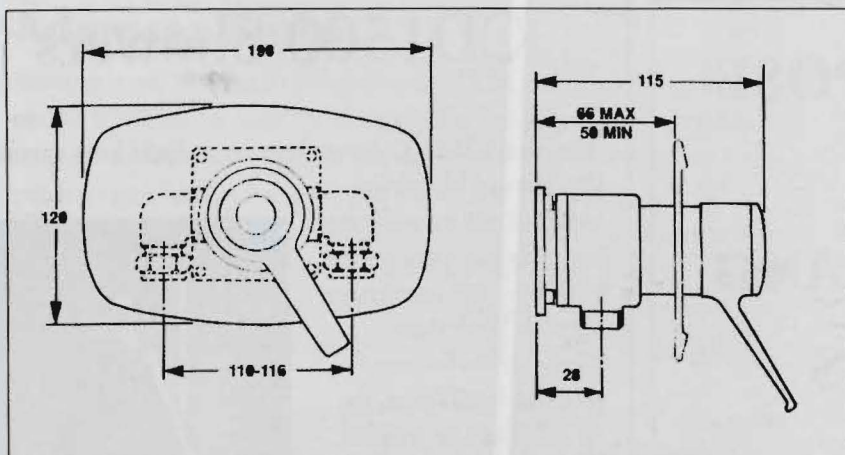
- High performance blender shower
- Compatible with any plumbing system
- Single lever operation for flow and temperature control
- Ceramic disc resists limescale build up
- Surface or recessed versions
- High quality chrome finish
- Adjustable inlet elbow for ease of installation



Unidare
HEATING & PLASTICS

Unidare Heating & Plastics Ltd,
Jamestown Road, Finglas, Dublin 11.
Tel: 01 - 677 1801; Fax: 01 - 834 6419

UNIDARE HEATING AND PLASTICS LTD



Tern CD1500 CCP concealed version – all dimensions in mm

off the shower in the event of a hot or cold water failure.

Benefits include:-

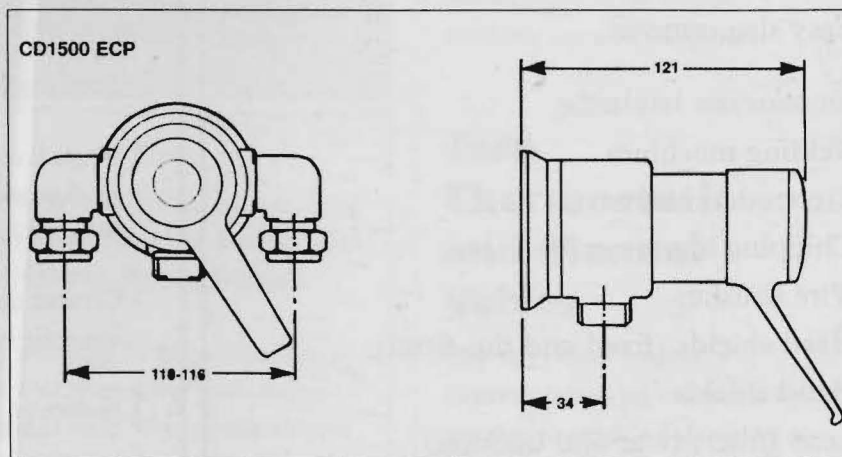
- Invigorating performance;
- Suitable for use with any plumbing systems: mains, unequal, pumped and combination boilers;
- Single sequential control;
- Wax capsule thermostat maintains stable temperatures and prevents scalding;
- Factory set to 43°C can be reset on site;
- Instant fail-safe in the event of hot or cold failure prevents scalding;
- Surface mounted or recessed fitting models;
- Optional ABS shroud available for surface valve;
- Complies with current NHS estates guidelines on safe hot water.

The Tern CD1500 shower features a single-lever ceramic disc manual blending valve which provides accurate and positive operation of both flow and temperature control. With three choices of surface or recessed installation, the CD1500 can be coupled with a wide selection of

shower kits, including slider rail and shower handsets, or fixed overhead roses, suitable for low or high pressure showers.

Benefits include:-

- High performance blender shower;
- Compatible with any plumbing system;
- Single-lever operation for flow and temperature control;
- Ceramic disc resists limescale build up;
- Surface or recessed versions;
- A wide choice of shower kits;
- Surface model available in gold and chrome finishes;
- Recessed model available in gold, white and chrome finishes;
- Adjustable inlet elbows for ease of installation.



Tern CD1500 ECP exposed version – all dimensions in mm



Unidare Heating & Plastics Ltd.

Link Road, Poulavone, Ballincollig, Cork.

Tel: 021 - 874 4543;

Fax: 021 - 874 4544

Terrain and Rymway Plastic Drainage Systems

Whatever the criteria you will find a range, a component, the quality and technical support appropriate to the contract - whether housing, industrial, commercial or public sector.



TERRAIN

High performance. High Quality.
Four Rainwater Systems, including Torrent - the high capacity Rainwater System, plus an extensive Soil & Waste System suitable for any application.

TERRAIN UNDERGROUND

A comprehensive advanced Underground Drainage System with many unique features.

Rymway THE PLUMBERS CHOICE

A popular range of push-fit Soil & Waste Systems, at a down to earth price.

Technical support includes an advanced CAD and drawing service - free to customers.

TERRAIN

Caradon Terrain Limited
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Fax: +44 (0) 1622 716920

THE



RIELLO

RL SERIES



LIGHT OIL BURNERS

ENERGY-SAVING

The Riello RL Series burners - output range from 166 kW to 593 kW - are designed to combine high performance with ease of maintenance, and to suit a wide range of applications.

SILENT OPERATION

At the heart of the burner is a new reverse curve blade fan which reduces high fan static pressure and reduces sound levels by up to 50%.

Cost-effective high performance, silent operation and easy maintenance make the Riello RL Series the ideal light oil burners.



Simply the Best

C & F Quadrant, Chapelizod, Dublin 20.
Tel: 01 - 626 5711; Fax: 01 - 626 7863

SYSTEMS AT WORK, YEAR IN YEAR OUT... ABOVE AND BELOW GROUND

If you want to see a smooth-flowing system at work look no further than your nearest mature tree. Its life depends on a perfectly reliable order that keeps on performing, year in and year out... carrying nourishment and water from deep underground to the tip of the crown through a highly efficient root system. The range of plastic plumbing and drainage systems from Unidare is also designed to keep on working smoothly. Drawing on years of experience, we supply a wide choice of top quality durable products which are light and easy to handle.

Unidare Systems keep on working in all seasons. Our quality plastic products fitted today will be performing to the highest standards well into the next century. Just like the tree.



Unidare Heating & Plastics Limited,
Jamestown Road, Finglas, Dublin 11.

<https://arrow.tudublin.ie/bsn/vol36/iss9/1> 801; Fax: 01 - 834 6419

DOI: 10.21427/D7K70W

Continued from page 15

pipled directly so there is no need to order or store it, and bills are issued every two months. Alternatively, annual costs can be spread evenly in monthly or weekly payments.

Real flame fires

One of the advantages of having natural gas heating in a home is that a real flame fire can be added. Giving instant heat at the flick of a switch, there's a range of gas fires, from the open coal-effect models - perfect for occasional use in a centrally heated home - to the main room heaters which give out up to 4kWh of heat.

Changing to natural gas

Where there is currently a solid fuel or oil central heating system, then changing to gas simply means replacing the boiler ... the radiators and pipe-work can still be used.

When changing from oil central heating, the oil boiler can be replaced completely with a new gas boiler. This is the preferred option in many homes where the need for a new boiler is becoming apparent anyway. Where an oil boiler is in good working order then just changing the burner within it may suit better. This is a new option now available as the technology used in industry becomes available to the home owner.

Householders changing from solid fuel can choose to install a neat wall-mounted boiler or a natural gas back-boiler. With the wall-mounted option, there is still the opportunity to fit a separate gas fire in the fireplace. With the flueing options available, the boiler can be sited on an outside wall or even on an inside wall with the fan-flued models.

Natural gas back-boilers fit into a standard fireplace opening, using the chimney as a flue. With each boiler model, there's a choice of fire-fronts. The fire and boiler work independently. The heating can be on without the fire, and vice versa. The boiler will also heat hot water, with or without the radiators being on.

In all cases, finance for changing to natural gas can be arranged and repayments made over three years on the gas bill.

Total heating controllers

New boiler energy-management systems combine time and temperature controls for the ultimate in heating efficiency. The unit is programmed by setting the temperature required for each time period, each day, for the week. The sensors in the unit measure the outdoor temperature and

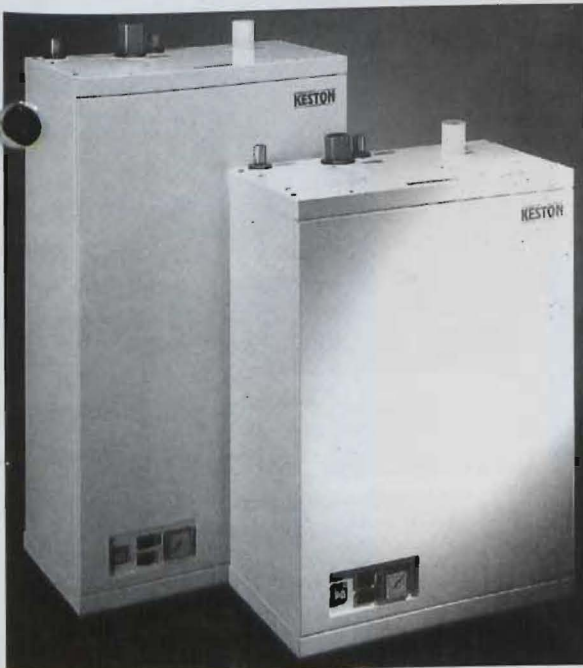
use this to determine when to switch the boiler on to ensure the house is at the temperature you require. During mild spells, the boiler may only need to be running for a very short time, if at all. This takes all the guesswork out of setting time clocks, a particular advantage given Ireland's unpredictable weather. You never use more gas than is necessary.

A change in climate ...

Natural gas is the primary growth fuel for a number of obvious reasons ... convenience, clean burning appliances in the home, and efficient combustion characteristics. A less obvious benefit is that for each unit of energy it releases when burned, natural gas gives off fewer harmful emissions than any other fossil fuel. CO₂ (Carbon Dioxide) emissions

Continued on page 32.

Keston Condensing Boiler - The Automatic Choice



Keston Wall Mounted Condensing Boilers

50,000, 60,000, 80,000 and 170,000 Btu/hr models

- ◆ 96% efficient - up to 35% energy savings
- ◆ Cheaper and easier to install - flueing is standard MuPVC 40mm kitchen waste pipe
- ◆ Flueing versatility - can be flued vertically or horizontally up to 15 meters
- ◆ Simple design/easy maintenance
- ◆ Environmentally sound - Ultra Low Nox emissions of less than 5 p.p.m.
- ◆ Total reliability and customer support
- ◆ Five Year Guarantee on heat exchanger
- ◆ Domestic and commercial applications
- ◆ CE Certified

KESTON HEATING PRODUCTS LTD

Unit 6B, Cookstown Business Centre, Tallaght, Dublin 24.

Tel: 01 - 451 7022; Fax: 01 - 451 7613.

KESTON
Boilers

NATIONAL BOILER AWARDS

Boiler Awards Scheme Saves Over £620,000

Energy savings of over £620,000 were reported at a ceremony to announce the winners of the National Boiler Awards by Mr Joe Jacob, TD, Minister of State at the Department of Public Enterprise, in the Alexander Hotel, Dublin recently.

The National Boiler Awards are organised by the Irish Energy Centre and are designed to create greater awareness and appreciation of the role of boilerhouse management. The awards programme this year generated savings of over £620,000, part of the Irish Energy Centre's target to save £5 million annually.

Boilerhouses in Ireland consume in excess of 1,815 million litres of fuel oil, 10.4 billion kWhs of gas, and 300,000 tonnes of coal and peat combined. The fuel bill of companies in the scheme exceeds £18 million annually. With the average boiler operation at between 2% and 5% below optimum efficiency, savings of up to £3,950 per company can be achieved annually.

The scheme also reported a reduction of over 12,400 tonnes of CO₂ emissions due to more efficient boilerhouse management. The awards aim to reduce the amount of fuel being consumed and generate direct savings for the organisation.

Winners in the Industrial Boilerhouse of the Year category were Great Northern Brewery, Co Louth with St James's Hospital in Dublin winning the Commercial Boilerhouse section. Saacke Ltd of Youghal won the Service Company of the Year award and the Boilerperson of the Year went to Raymond Boyle of Abbot Ireland in



Virgil Bolger, Irish Energy Centre with George Walker, Boilerhouse Services, Lisburn, Co Antrim and Joe Jacob, Minister of State at the Department of Public Enterprise. Boilerhouse Services were awarded "highly commended" in the Service Company of the Year section.



Left: Virgil Bolger, Irish Energy Centre with Robert Smith and Martin Daly, Baillie Foods, Co Cavan; Joe Jacob, Minister of State at the Department of Public Enterprise. Baillie Foods were awarded "commended" in the Industrial Boilerhouse of the Year section.

Right: Virgil Bolger, Irish Energy Centre with Michael Colgan, Allergan Pharmaceuticals, Westport, Co Mayo; and Joe Jacob, Minister of State at the Department of Public Enterprise. Allergan Pharmaceuticals were awarded "highly commended" in the Industrial Boilerhouse of the Year section.



Virgil Bolger, Irish Energy Centre with Phil Carr, and Richard Sheehan, Saacke Ltd; and Joe Jacob, Minister of State at the Department of Public Enterprise. Saacke Ltd, based in Youghal, Co Cork, was the winner of the Service Company of the Year Award.

Cavan for the second year running.

There were over 170 nominations for the awards this year, an increase of over 60%. Entries to the awards scheme are judged on good management of boilers with a special focus on the use of reporting information to achieve greater energy savings and efficiency. Each category contained a "Winner", "Highly Commended" and "Commended" section.

This year the Irish Energy Centre also announced that Royal & Sun Alliance will co-sponsor the 1998 awards.

Speaking at the awards Virgil Bolger, Awards Coordinator, Irish Energy Centre, said: "This year's entries contained a good mix of companies, and it is encouraging to see that the companies involved used the initiative to get on-the-spot advice on how to improve their boiler facilities. Good boilerhouse practice manifests itself in improved reliability and safety, and leads to energy savings that appear on the bottom line as profit". ■

Right: Virgil Bolger, Irish Energy Centre, with Peter McCarthy and Brian Byrne, Great Northern Brewery, Dundalk and Joe Jacob, Minister of State at the Department of Public Enterprise. The Great Northern Brewery were Overall Winners of the Industrial Boilerhouse of the Year section.



Above: Virgil Bolger, Irish Energy Centre with Mike Heard, Fruit of the Loom, Buncrana, Co Donegal, and Joe Jacob, Minister of State at the Department of Public Enterprise. Fruit of the Loom was awarded "highly commended" in the Boilerperson of the Year section.



Above: Virgil Bolger, Irish Energy Centre, with Colm Murphy, Nutricia Ireland Ltd, Wexford; David Cleere, Nutricia Ireland; and Joe Jacob, Minister of State at the Department of Public Enterprise. David Cleere was awarded "commended" in the Boilerperson of the Year section.

Above: Virgil Bolger, Irish Energy Centre with Eamon Lennon, Tommy McKeon and Raymond Boyle, Abbot Ireland, Cootehill, Co Cavan; Joe Jacob, Minister of State at the Department of Public Enterprise. Raymond Boyle was awarded Overall Winner in the Boilerperson of the Year section.

Industrial Boilerhouse of the Year

- Winner:** Great Northern Brewery, Dundalk, Co Louth
- Highly Commended:** Allergan Pharmaceuticals, Westport, Co Mayo
- Commended:** Bailie Foods, Lear Bailieboro, Co Cavan

Commercial Boilerhouse of the Year

- Winner:** St James's Hospital, James's Street, Dublin 7
- Highly Commended:** Intel Ireland, Leixlip, Co Kildare
- Commended:** CERT, Amiens Street, Dublin 1

Service Company of the Year

- Winner:** Saacke Ireland Ltd, Youghal, Co Cork
- Highly Commended:** Boilerhouse Services, Lisburn, Co Antrim
- Commended:** BetzDearborn Ireland, Harold's Cross, Dublin 6W

Boiler Person of the Year

- Winner:** Raymond Boyle, Abbot Ireland, Cootehill, Co Cavan
- Highly Commended:** Mike Heard, Fruit of the Loom, Buncrana, Co Donegal
- Commended:** David Cleere, Nutricia Ireland Ltd, Wexford

Left: Virgil Bolger, Irish Energy Centre, with Cathy Moore, Bourke Strand Ltd; Francis O'Malley, CERT, Amiens Street; and Joe Jacob, Minister of State at the Department of Public Enterprise. CERT, Amiens Street, Dublin 1 was awarded "commended" in the Commercial Boilerhouse of the Year award.



Right: Virgil Bolger, Irish Energy Centre, with Les Kelly and James Brady, BetzDearborn Ireland Ltd; and Joe Jacob, Minister of State at the Department of Public Enterprise. BetzDearborn were awarded "commended" in the Boiler Service Company of the Year award.



Left: Virgil Bolger, Irish Energy Centre with Martin Smith and Eric Kelly, St James's Hospital and Joe Jacob, Minister of State at the Department of Public Enterprise. St James's Hospital were winners in the Commercial Boilerhouse of the Year award.



Above: Virgil Bolger, Irish Energy Centre with John O'Connor, John Byrne, and Fintan Lyons, Intel; Joe Jacob, Minister of State at the Department of Public Enterprise; and John Dunphy, Intel. Intel was awarded "highly commended" in the Commercial Boilerhouse of the Year section.

PRODUCT REVIEW
DOMESTIC BOILERS

are 50% lower than those of coal and 30% lower than those of oil. CO₂ is the main greenhouse gas responsible for global warming. Sulphur Dioxide emissions – a major cause of acid rain – are negligible, and there is no dust or ash. The purity and efficiency of natural gas has already impacted favourably on environmental cleanliness across Europe.

Keston Condensing Boilers

The Keston range of condensing boilers provides comprehensive benefits to both the installer and end-user. Super high-efficiency and reliable heating systems, combined with ultra low NO_x combustion, means very low running costs and virtually no atmospheric pollution. The overall package is simple to install, maintain and operate.

Contact: Frank Forde,
Keston Heating Products.
Tel: 01 - 451 7022.



Right: Typical Keston condensing boiler installation

Potterton Domestic Boilers

A history of extensive research and continuous development lies behind the extensive and all-embracing Potterton Myson range of domestic boilers.

Potterton Myson has always been at the leading edge of new product development and is Europe's foremost manufacturer of domestic boilers.

In recent years the company has introduced a great many innovative products incorporating design features which have set industry benchmarks.

Wall hung cast iron boilers – Suprima

Since Potterton made the first wall hung cast iron boiler, they have sold over two million to date. The Suprima boiler, launched in 1996, has proved very successful in the

marketplace. It is the smallest, most compact boiler on the market. It fits comfortably in the kitchen cupboard or under a work surface. Recent updates to the product include a PCB ingress shield, soft mounted fan to allow even quieter operation, and a new protective coating on the printed circuit board. The Suprima is light (26-35KG) and easy to install. This remains Potterton Myson's best-selling natural gas boiler.

In a survey conducted in the UK and Ireland, almost 90% of respondents who installed the Suprima found it easy to install. Part of the ease of installation is from the range of flue options which offer additional flexibility when fitting the boiler. The Suprima has a top-mounted flue turret which can be rotated to 360° and, because the flue is telescopic, this removes the need to cut it to length. Ease of service and maintenance was also an important feature.

Condensing boilers – The Envoy –

The Envoy condensing

boiler has also been gaining market share since its launch. It is a wall-hung boiler combining the latest in condensing technology with flexibility and ease of installation. This is an extremely high-efficiency boiler (up to 96% efficiency) designed to save on domestic fuel costs (up to 30%) and reduce noxious emissions into the environment.

The Envoy comes in a wide range of outputs ... from 30,000 Btu/h to 80,000 BTU/h. That's small enough for a flat and big enough for all but the largest houses. The Envoy measures just 520mm by 450mm.

Floor standing boilers – new Kingfisher mf

In floor standing boilers, Potterton Myson will be replacing the existing Kingfisher and Marathon range with the new Kingfisher mf range. These are the first fanned, conventional and balanced flue floor-standing boilers. The Kingfisher range is smaller than any floor-standing boiler range at only 290mm wide. It is less

noisy and more efficient than any other floor-standing boiler (80% efficient compared to 65% in other boilers). With its fanned balanced flue, the Kingfisher mf is flexible enough to site almost anywhere. Outputs range from 40,000 BTU/h to 220,000 BTU/h.

Oil boilers – new flue kit for Statesman

The Potterton Statesman range is a range of domestic indoor oil boilers. Compact, with a stylish design, the Statesman will fit in with most kitchen layouts. It has outputs ranging from 45,000 BTU/h to 100,000 BTU/h. It is highly efficient at between 87% and 93% efficiency, and is clean and quiet in operation. The Statesman incorporates a Riello burner.

Recent innovations in the design of the flue kit means that the Potterton Statesman is flexible and simple to install. The new flue kit is based on a cylindrical telescopic flue system with a number of options to match each installation situation.

To launch and celebrate this new flue kit, Potterton Myson will shortly announce a promotion on Statesman. With every Statesman boiler sold, a free body-warmer will be given away. There will also be a draw for a number of weekend breaks each month. Details of this promotion will be announced soon.

Contact: Fiona O'Neill,
Potterton Myson (Ireland).
Tel: 01 - 459 0870.



The Potterton Statesman, Potterton Myson's domestic indoor oil boiler

Number One in Central Heating



PRODUCT REVIEW
DOMESTIC BOILERS

Sime 'Cast to Last'

Hevac Ltd, Sime's agent in Ireland, has been selling quality cast iron boilers into the Irish market for almost 25 years, many of the original boilers installed being still in operation today. The Sime cast iron boiler has proven over many years to represent exceptional value for money. Such is Hevac's confidence in the quality and reliability of the Sime boiler that it offers a 12-year "Cast to Last" guarantee.

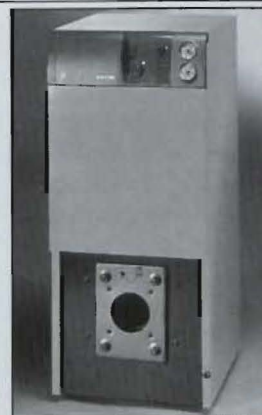
Outputs available go from 60,000 Btu to 600,000 Btu.

Why cast iron? - No material has ever exceeded cast iron when it is a question of long life in central heating boilers. Cast iron effectively resists corrosion and provides a more efficient heat transfer surface. It is a well known fact that cast iron boilers can last infinitely longer than boilers manufactured in other materials. This is especially true for boilers working at low temperatures.

Hevac recently introduced aesthetic and

functional improvements on the Sime range, such as a new design on the control panel; 100mm insulation thickness; hinged burner mounting door (IR & 2R series); and a hydrometer.

Hevac's considerable success with Sime boilers is based on a simple strategy of providing quality products complemented by an equally quality-conscious service support structure comprising ex-stock availability across the range and over £100,000 worth of spare parts which are available off the shelf.



Hevac offers a 12-year "Cast to Last" guarantee on all Sime boilers

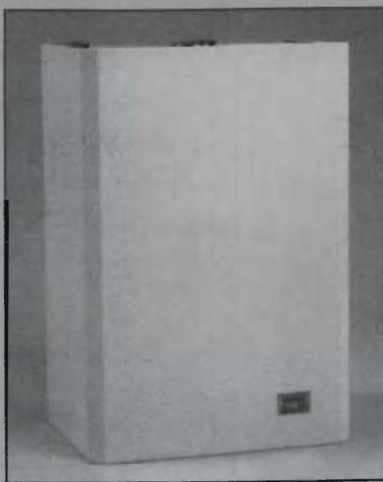
Contact: Declan Kissane, Hevac Ltd.
Tel: 01 - 830 1211.

Halstead ... The Best Range

The Halstead *Best* is a compact wall-mounted, fan-assisted, balanced-flue, natural gas boiler. For the installation engineer it is technically advanced, while quick and easy to install. The *Best* also incorporates a lightweight cast iron heat exchanger for efficiency and reliability.

Available with five range-rated outputs of 30, 40, 50, 60 and 80,000 Btu/hr, all *Best* outputs feature automatic direct burner ignition and electronic temperature control.

A white finish to the flue assembly enhances the boiler's overall high-quality finish.



Above: Halstead "Best" lightweight, cast-iron, fan-flue boiler from Heatequip

to simplify the installation of the *Best* boiler in conjunction with a pressurised central heating system.

Contact: Alan Seary, Heatequip. Tel: 01 - 451 9711.

Located on top of the boiler, the flue turret facilitates multi-directional flue exits. With optional flue accessories, a maximum horizontal flue length of 3000mm can be achieved, or 3500mm vertically with kits. 90° and 45° bends further enhance the flexibility of the flue system.

The *Best* sealed system pod is an add-on kit designed

Boulter Oil Boilers

Boulter - the acknowledged leader in the UK in manufacturing oil fired boilers for over 25 years - has now teamed up with another market leader, Hevac Ltd.

The Boulter reputation has been built on high quality products manufactured to a standard that has earned full ISO accreditation. All Boulter boilers are fitted with Riello burners and are pressure-tested before leaving the factory.

The following are some of the Boulter boilers currently available from Hevac Ltd and backed by their professional spares and service organisation:-

Camray E is a floor-standing, fully room-sealed oil boiler which offers totally reliable and effective central heating and hot water for every kind of home. It offers the ideal solution for new systems and for replacement boilers where needed. The Camray E is available in four models, with a choice of

outputs from 50,000 BTU/h to 175,000 Btu/h. Boilers are supplied for conventional flue systems, but the optional balanced flue kit allows easy conversion for use with the Boulter-pioneered, room-sealed, balanced flue for remarkably quiet operation.

The Camray E may be installed on gravity or fully-pumped systems. Efficient operation is guaranteed with the advanced, high-quality heat exchanger (with 5mm inners, 4mm outers), and the pre-tested and pre-set Riello burners.



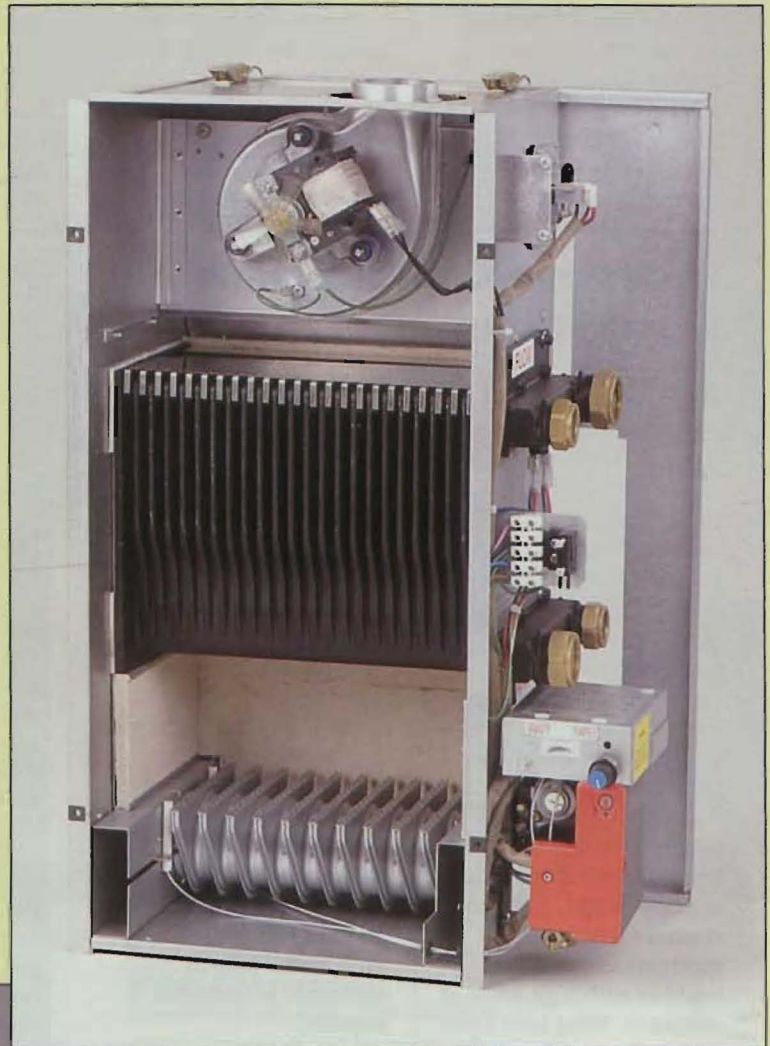
The Boulter Camray E oil-fired boiler from Hevac

The Best

LIGHTWEIGHT CAST-IRON FAN FLUE BOILER

Features & Benefits

- ❑ Compact, fan-assisted, balanced flue
- ❑ Lightweight cast-iron heat exchanger
- ❑ Quick and easy to install
- ❑ Automatic direct burner ignition
- ❑ Electronic temperature control
- ❑ Four range-rated outputs – 30/40/50/60/80,000 Btu/hr
- ❑ Flue turret allows for multi-directional flue exits
- ❑ Suitable for open vented, fully-pumped open vented, and sealed systems
- ❑ Sealed system kit available
- ❑ CE Approved



Details from

HEATEQUIP

Heatequip Ltd,
Eurohaul Centre,
Greenhills Road,
Tallaght,
Dublin 24.

Tel: 01 - 451 9711;
Fax: 01 - 451 9064.

PRODUCT REVIEW

DOMESTIC BOILERS

Compact 50/70 is a wall-mounted balanced flue indoor oil boiler which is ideal for smaller kitchens or wherever floor level storage space is at a premium. With outputs from 50,000 Btu to 70,000 Btu/h (15kW to 21kW), the Compact can be used on

both sealed and open systems and is suitable for fully pumped systems.

There is also an outdoor version, the Camray 15/21, which is designed specifically for installation on an external wall, making it ideal for situations where space is

limited within the house. Installation and maintenance couldn't be easier, with the service engineer able to access the boiler from outside. The Camray 15/21 is housed in tough, weatherproof casing, which incorporates an integral flue, and

therefore requires no further flue system.

All Boulter boilers are covered by a 5-year guarantee on the heat-exchanger and 2-year guarantee on all other parts.

Contact: Declan Kissane, Hevac. Tel: 01 - 830 1211.

Heatslave Combi Balances the Options

Worcester Heat Systems has added a new model to its Heatslave oil fired Combi range. The new room-sealed, balanced-flue, boilers join the existing conventional and open-flue options and use the same flue ducting. All models draw air for the burner from outside the room and expel the waste gases through the same concentric ducting.

The flue design enables boilers to be installed below the standard kitchen worktop height, and also ensures exceptional quietness in operation, together with high levels of efficiency. Being fully room sealed, the Heatslave RS is particularly flexible and can be sited virtually

anywhere in the house.

Like the other Heatslave Combi's, the new RS version incorporates an advanced heat exchanger design to provide full central heating and hot water on demand for the highest operating efficiency. It complies fully with the forthcoming boiler efficiency directive and is OFSA100 Otefc certificated.

Heatslave Combi comes in three different output ratings - 12/14kW, 15/19kW and 20/25kW - and can be supplied with an optional plug-in electronic programmer if required.

Already an extensive and well proven range, Heatslave provides

additional options with the introduction of the new RS room-sealed, balanced-flue models.

Contact: Justin Sheehan, Heatovent. Tel: 01 - 450 8166; Vincent Kavanagh, Worcester Bosch. Tel: 087 - 437904.



Left: The new RS room sealed balanced flue boiler from Worcester Bosch is the latest to be added to its Heatslave oil fired Combi range

Pensotti Cast-Iron Boiler

Pensotti cast-iron boilers have a long-standing, well-established reputation for quality, reliability, safety and optimum performance. The scope of the broad-based portfolio is extensive, catering for all manner of applications. Whether it is oil or gas-fired, all models are manufactured according to the most demanding quality-control procedures, and all carry CE approval.

Typical examples of the diverse portfolio are the Aprica, Cervinia and T-Line ranges. Brief details of each are as follows:-

Aprica - Aprica special cast-iron boilers come with a wide range of heat outputs from 80.2 to 259.3 kW. They can work with either oil or blown gas. Aprica line has been designed to offer the user long-life, reliable and outstanding-performance products, by taking into account the best possible quality-price ratio, which makes these boilers unique in their category. The high efficiency rate (>90%) is achieved by exploiting to the utmost calories liberated by the combustion process.

The exclusive heat exchanger design with triple-flue gas circulation, offers a large exchange area, in spite of the reduced dimensions of the boiler. Flue gases coming from the chamber after the combustion process flow into different sectors where they are forced to make a turbo-rotary movement before reaching the chimney through special upper and lower flue ducts.

T-Line - T-Line cast iron boilers come with a wide range of outputs from 20.9 to 67.4 kW covering both domestic and semi-commercial applications. The range is suitable for use on 35-sec diesel or a blown air gas burner. Being compact in size allows siting in those areas normally difficult for boiler location. The high quality designs of the T Range offers the user long life, reliability and outstanding performance.

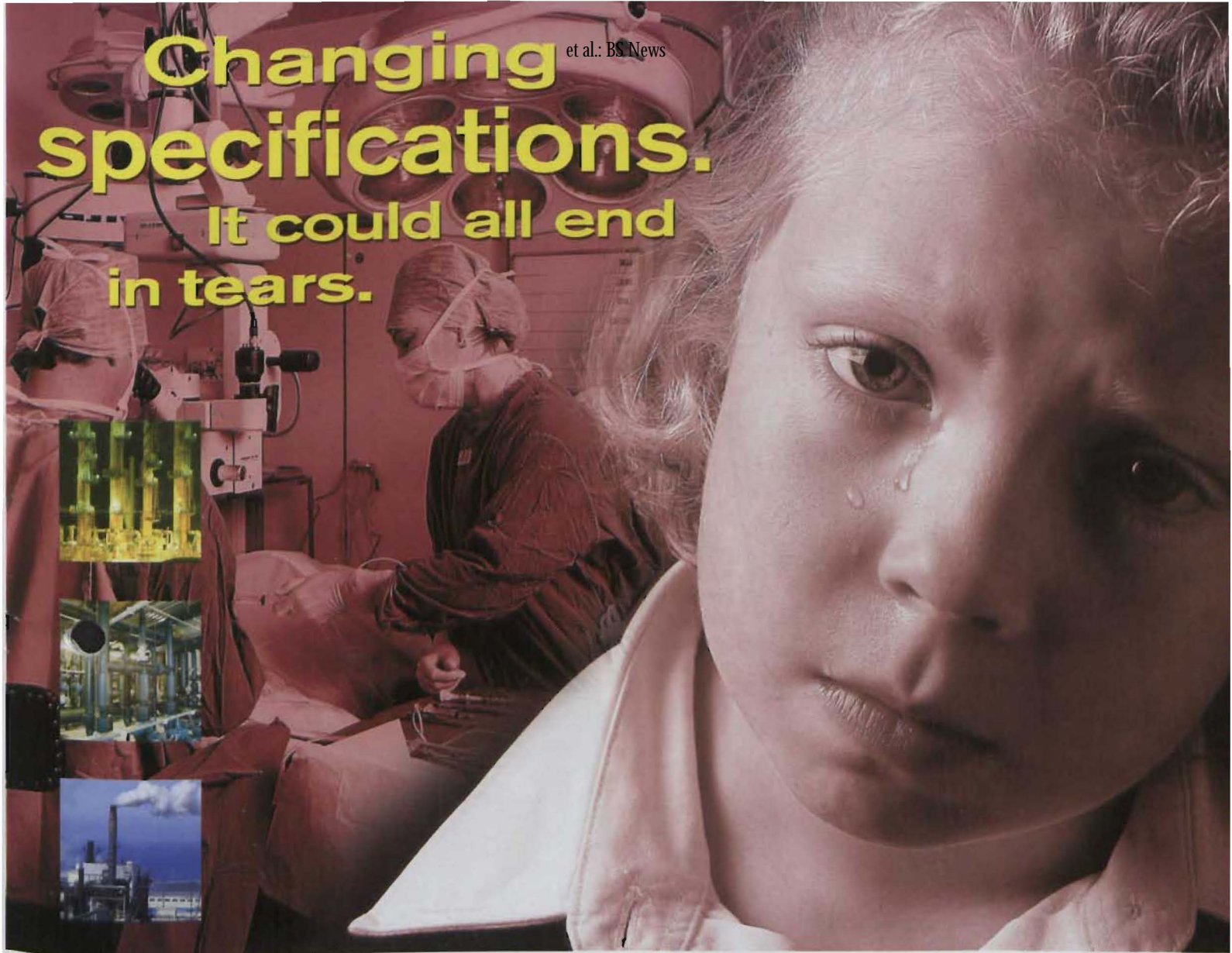
Cervinia - Cervinia are conventional flue atmospheric gas boilers. They have been conceived for the installation in small and medium size domestic heating systems and their heat output ranges from 20.3 kW to 79.1 kW.

Contact: Alan Seary, Heatquip. Tel: 01 - 451 9711.

Right: Pensotti Aprica high-efficiency oil and blown gas fired boilers in cast iron from Heatequip



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choice over many years. Our continual product development programme is your guarantee for high quality, optimum efficiency and long life. So the next time you fit a pump, don't compromise - make sure it's Grundfos.

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TRADE NEWS

Dri-Steem Humidifier from SCS

A unique new technical breakthrough in humidifiers is now available from Standard Control Systems. The Dri-Steem GTS © gas-fired humidifier range offers the following benefits:-

- ❑ steam range capacities up to 136 kg/hr;
- ❑ up to five times less expensive to operate than electric humidifiers;
- ❑ extremely low NOx emissions ... less than 20ppm;
- ❑ 80% efficient rapid heat transfer infrared gas burners;
- ❑ microprocessor RH control accuracy ±5%;
- ❑ unique dispersion systems with guaranteed short induct steam absorption distances (eg 300mm);
- ❑ compatible with all types of make-up water;
- ❑ stainless steel 304 & 316 construction;

Standard Control Systems has supplied Dri-Steem systems to prestigious sites such as Grelan Pharmaceuticals, Smithkline Beecham, Elan Corporation and Limerick Regional Hospital among others.



For further information on the above and other DriSteem Humidification systems such as direct steam, liquid steam, steam-to-steam, and electrical units contact: John D'Arcy, Standard Control Systems. Tel: 01 - 624 6100.

GTS Dri-Steem gas-to-steam humidification system from SCS

Mains Powered Room Stat from Danfoss

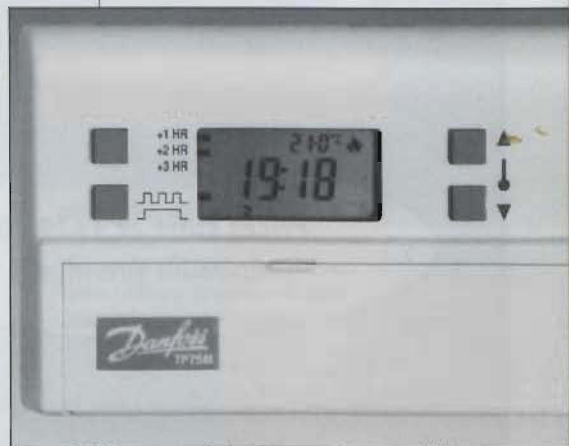
Danfoss Randall's new mains-powered TP75M is a 7-day programmable room thermostat designed for mainly commercial applications. It can be easily converted, at the time of installation, to weekday/ weekend control if this is preferred.

Unlike the popular TP75, its battery-powered domestic counterpart, the TP75M operates on 220/240V ac, thus eliminating the need to periodically change batteries. To guard against power failures, the unit is provided with an integral 15-hour battery back-up system.

The basic TP75M incorporates an integral

temperature sensor; a remote sensing version, the TP75MA is also available. Both models allow the programming of up to six periods at different temperature levels each day. A factory pre-set programme, that can be easily changed by the user to suit individual needs, eliminates the need for programming on site and saves installers valuable time.

Contact: David Sampson/Jon Byrne, J J Sampson & Son Ltd. Tel: 01 - 626 8111.



Danfoss Randall's Mains-Powered Programmable Room Stat from J J Sampson & Son Ltd

Unidare Heating & Plastics, Cork



Dan Twomey, Cork Builders Providers, with Eddie Greene, Unidare Heating & Plastics, pictured at the function held to mark the opening of the company's new Cork feeder depot. See special feature commencing on page 17.



Donal O'Leary, Regional Manager, Unidare Heating & Plastics, Cork, pictured with Aidan Murphy, Dennehy's Heating & Plumbing

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ICS25 – Rite-Vent's Robust Chimney

Rite-Vent Ltd, one of the leading manufacturers of flues and chimneys, recently introduced the new ICS 25 twin-wall insulated chimney system which is suitable for internal and external use on appliances using gas, oil or solid fuels covering residential, commercial and industrial applications. It is specifically designed to meet today's rigorous safety and efficiency requirements, offering optimum performance criteria.

The ICS 25 is extremely robust, consisting of a stainless steel type 316L Liner, a 25mm insulated cavity and a bright annealed outer case of stainless steel type 304. The insulating blanket is a body-solvent alkaline earth silicate specially developed for the new system which extends the entire length of each twin-wall section. Both liner and outer case are continuously welded and a uniquely-profiled spigot and socket joint ensures that installation is simple, efficient and trouble-free.

Continuous operating temperatures up to 540°C with short firing temperatures to 760°C can be accommodated by this latest addition to the Rite-Vent range. It is also totally water-tight inside and out, resistant to corrosion, and offers a "remarkably low" external temperature.

The ICS 25 is available in a full range of diameters from 80mm to an impressive 705mm. The residential range – from 80mm to 200mm inclusive – are Kitemarked to BS4543 Parts 2 and 3 for use with gas, oil and solid fuel applications.

The system also incorporates pipe sections, bends, tees and other insulated flue exhaust components, plus a large number of support components, fittings and accessories. This Rite-Vent system offers the industry a high-performance, easily-installed and effective chimney that is also well-finished and aesthetically pleasing.

Contact: Wendy Pearson, Rite-Vent Ltd. Tel: 0044 191 416 1150.

Rite-Vent's new generation ICS-25 twin-wall insulated chimney system



TRADE NEWS

Chadwick's Plumb Centre Open Night

The recent official opening of Chadwick's Walkinstown Plumb Centre, incorporating the new Bathroom & Tile Collection Showroom, turned in to an industry open night with upwards of 100 people attending on the evening. They included heating engineers, plumbing contractors, tiling contractors, building services engineers, Bord Gais personnel and representatives from Chadwick's many suppliers.

While an official function, the occasion was informal and relaxed, RTE personality Des Cahill setting the tone for the evening in his usual manner. Food and refreshments were served from 5.30pm 'till late with Des making continuous draws for a whole variety of spot prizes which included a colour television and two tickets for the All Blacks game.



- 1: Aidan O'Connor with Des Cahill and Martin Lynch
- 2: Finbarr Bennett with Pat Halpin, Kevin Sullivan, Branch Manager, Chadwicks Plumb Centre, Walkinstown and Sean Martin
- 3: Kevin Sullivan with Eamonn Synnott, Assistant Manager, Chadwicks Plumb Centre, Walkinstown, Ben Morris and Paul Doyle
- 4: Ray Travellian with Des Cahill and Simon Black
- 5: Sean Lynch with Des Cahill and Aine McGarry, Showroom Sales, Chadwicks Plumb Centre, Walkinstown

Bord Gáis ... Here Is The News



Pictured at the launch of a unique combined heat and power and district heating system at the Dublin Corporation Civic Offices at Wood Quay were Philip Cronin, Chief Executive, Bord Gais; Laura Magahy, Managing Director, Temple Bar Properties; and Tim Cooper, Managing Director, CEL



Brendan Pluck, Paramount Heating with Dave Harris, Harris Heating, and Ray Colgan, Spanspeed, at the GNN advertising campaign launch in Croke Park

Armitage Shanks – Bubbles Flow on the M50

Champagne corks popped recently on the M50 as Armitage Shanks celebrated the opening of its new state-of-the-art showroom in the Ballymount Industrial Estate in Dublin 12. This new innovative centre puts together complete bathrooms, including fittings and tiles, which are the culmination of over 180 years experience in design and manufacture.

Through its expertise, Armitage Shanks has combined styling with function to create the ultimate in elegant bathrooms with the highest standards of finish. These are now magnificently presented in the new purpose-designed premises, alongside sister brands such as Qualitas Bathrooms; together with shower doors and a collection of modern and traditional brassware from Shower World and Bushberry Brassware, all part of Blue Circle Bathrooms.



1. Dan Twomey, Cork Builders Providers, chatting with top model Amanda Byram.



2. Exterior view of Armitage Shanks new purpose-designed premises at the M50 Business Park, Ballymount, Dublin 12.

A total of 25 complete bathrooms – from the traditional to ultra modern – are presented in a selection of colours. These include two new additions to the Armitage Shanks stable – “Bali Sand” (cream/beige) and “Ocean Spray” (green/blue) – and of course the ever popular pristine white.

Contact: Brian Redmond, Armitage Shanks. Tel: 01 - 456 4525. ■

3. Brian Redmond, Managing Director Armitage Shanks (I) Ltd, with Mary and John Donnelly of P J Walls Building Contractors.

4. Michael Schofield, Chief Executive, Blue Circle Bathrooms worldwide with model Amanda Byram; Brian Redmond, Managing Director of Armitage Shanks (I) Ltd; and Shiela Kilbride, Commercial Director, Armitage Shanks (I) Ltd.



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