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BSN News

MECHANICAL & ELECTRICAL BUILDING SERVICES

AIR MOVEMENT

Quality Controls
Must Be Enforced

ALSO

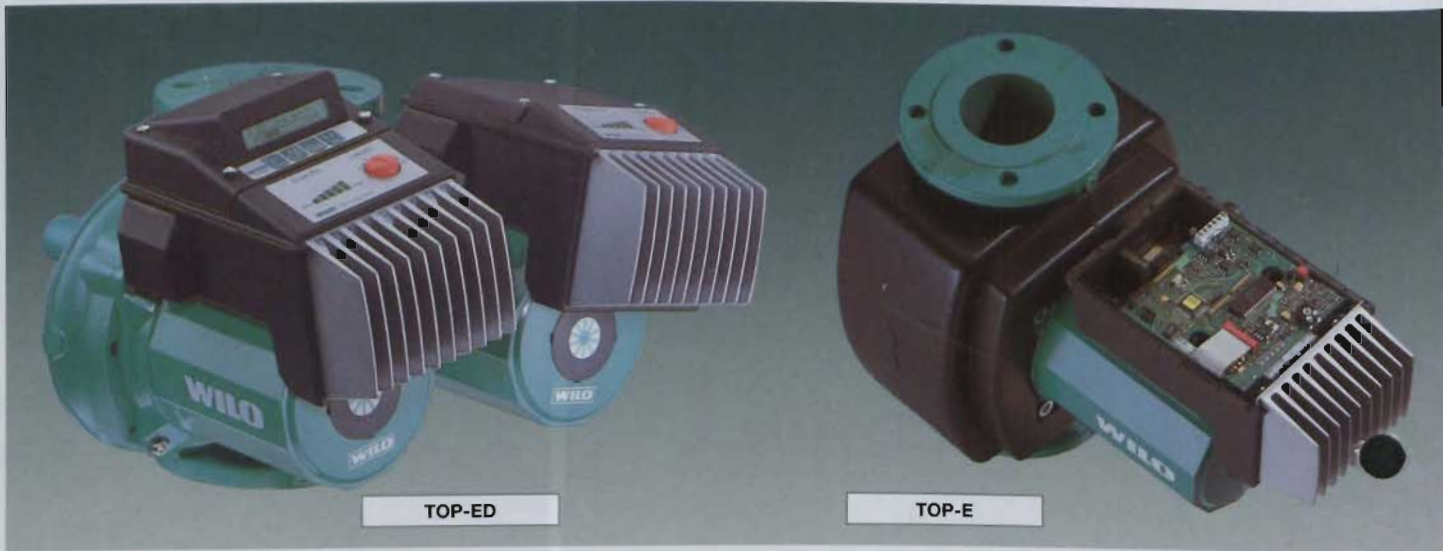
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CIBSE News

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BSNews*

MECHANICAL & ELECTRICAL
BUILDING SERVICES

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Readership Data

Irish Building Services News (formerly Irish H&V News) is Ireland's only Building Services magazine providing coverage of heating, ventilating, air conditioning, refrigeration, sanitaryware, plumbing, maintenance and environmental industries. It is the only publication catering exclusively for these industries and its circulation includes members of the following:- Chartered Institution of Building Services Engineers (CIBSE); The Mechanical Engineering & Building Services Contractors' Association (MEBSCA); The Association of Consulting Engineers of Ireland (ACEI); The Mechanical Engineering Contractors' Association; The Institute of Domestic Heating Engineers (IDHE); The Registered Heating Contractors Association; The Maintenance, Energy & Environmental Technology Association (MEETA) which incorporates energy managers and maintenance managers; The Energy Conservation & District Heating Association; The Institute of Plumbing; The Irish Home Builders Association (IHBA); Builders Merchants/Trade Supply Outlets; Irish Property & Facilities Managers Association.

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

Air Movement — Regulation Enforcement Must be Supported

Statutory Regulations in relation to air quality, air movement and ventilation are now firmly in place with environmental health officers gradually getting to grips with enforcing their implementation. This is especially so with restaurants and pubs where the issue of smoking versus non-smoking environments is a particular bone of contention. These situations are easy to target but it is only a matter of time before environmental health officers turn their attention to commercial and industrial environments.

To date, the impetus for the application of the new Statutory Regulations has been enforcement-led, clients and the building services sector in general being happy to follow rather than lead.

However, that scenario is gradually changing. The formation of the Irish Air Conditioning & Ventilation Association marks a dramatic and significant step forward in that it represents a desire and will on the part of the industry to be self-regulating. Environmental health officers welcome this development and have indicated that they are keen to work with the industry in the whole area of air quality and air movement, rather than act as enforcers.

If you — as a consultant, contractor, installer or product supplier — have a vested interest in air conditioning and/or ventilation, it makes practical and commercial sense to join and actively support the new Association.

For details contact: Tel: 01 - 278 4132.

Next Month

- ◆ OFCHEC Boiler Awards
First All-Ireland Central Heating Efficiency Award Winners
- ◆ Energy Project Profile
Award-winning boiler plant room at Great Northern Breweries

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Turnover and Profits up at Barlo

The Barlo Group achieved an operating profit of IRE5 million for the first six months ended 30 September, compared with IRE3.6 million in the comparable period last year, an increase of 40%. The results include a full six-month contribution from the expanded Barlo Plastics Division which, for the first time, includes the Resart and Critesa acquisitions.

In addition, an exceptional gain after tax of IRE1.7 million has arisen on the insurance claim for the fire at the Group's Newbridge facility in May 1998. This arises principally on the excess of the insurance proceeds over the net book value of the buildings, plant and machinery which were damaged as a result of the fire. All property damaged was covered for its full reinstatement value. It is intended that the proceeds from the insurance claim will be reinvested in a new manufacturing operation in the Newbridge area. Profit after tax was IRE5.4 million (1997 : IRE2.9 million).

While all divisions within the Group have performed well, the radiator division is perhaps of most interest to *BSNews* readers. The market for radiators in Ireland remains strong but markets in the UK and mainland Europe are mixed. Some markets have even slowed. Notwithstanding these conditions, the panel businesses have performed satisfactorily in the first six months and pressure on selling prices has been compensated to some extent by internal cost efficiencies.

Merriott, the Group's specialist radiator business, continues to make progress and is enjoying improved markets for its products, particularly in the UK.

Sisk Apprentice Training Centre



Mr George Sisk, Chairman, John Sisk & Son Ltd with An Tánaiste and Minister for Enterprise, Trade and Employment, Mary Harney, TD; Kevin Kelly, Managing Director, John Sisk & Son; and John G Sisk at the opening of the new £1 million Apprentice Training Centre.

CQA Ireland ... to Encourage, not Police

CQA Ireland (Construction Quality Assurance) was officially launched by Declan Grehan, Chairman, ICQA Certification Council, and Michael Clark, Chairman, CQA UK Ltd in the State Apartments at Dublin Castle last month.

The launch marked an important day for the Irish construction industry as part of its ongoing pursuit for quality in the construction sector as a whole.

CQA Ireland is a joint venture arrangement between Irish Construction Quality Assurance and Construction Quality Assurance in the UK. Its aim is to be in the vanguard of environmental management system certification in Ireland. The subject of 'sustainability' is high on the agenda.

CQA Ireland is the sign of management excellence, providing certification in

two particular areas:-

- Quality Management Systems ISO 9000;
- Environmental Management Systems ISO 14001.

CQA Ireland uses auditors who have experience of the business of profession of the organisation being assessed. Further to this, it assigns the same auditors (where possible) to carry out the twice-yearly surveillance audits. This gives continuity and promotes a long-term relationship. CQA Ireland wants to encourage clients, not police them.

Quality and Environment Management is not just for big organisations. CQA Ireland has considerable experience in the certification of small business and recognises that their needs are distinct. This is particularly important, given that much of the industry is made up of such firms.

Contact: Colin Izzard, Chief Executive, CQA Ireland. Tel: 01 - 497 7710.

Increased Support from Flygt

Dublin-based ITT Flygt Ltd has refocused its internal operation resulting in increased support and technical expertise becoming available to its customer base throughout Ireland.

Commenting, Flygt Ireland's newly-appointed General Manager Eddie Finn said: "This is good news for all Flygt customers in Ireland who can continue to use our range of high-quality submersible products with additional benefits.

"The recent changes mean we will be able to offer improved 'added value' benefits in systems engineering, design, supply, service and hire. An integrated IT system between Dublin and other Group facilities, for example, will create an on-line database to ensure quicker deliveries and aftermarket maintenance back-up".

Contact: Eddie Finn, ITT Flygt. Tel: 01 - 452 4444.



Pictured at the launch of the "Tomorrow's Homes Today Brochure" which targets domestic energy use in a bid to reduce greenhouse gases are, from left to right: Thomas Drumm (McInerney Construction Ltd); Joe Jacob TD, Minister of State at the Department of Public Enterprise; and Michael O'Driscoll (Manor Park Homebuilders).

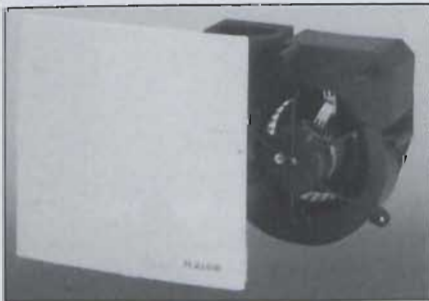
Maico Model Series ER

The Maico Series ER (according to DIN 18017, part 3) recessed-mounted, single-duct ventilation fans range from Irish Fan Distributors includes a standard model, along with a choice of other models which offer an integrated time-delay switch; light control; humidity control; and base load circuit.

Benefits and features of all models include:-

- AC 230 V, 50 Hz;
- Protection class II;
- Protection type IP X5. Suitable for installation in area 1 showers according to DIN VDE 0100 part 701;
- Robust, energy-saving capacitor motor; Maintenance-free, with ball bearings closed on both sides;
- Thermal overload protection as standard;
- Maximum permissible airstream temperature +40°C;
- Impeller diameter 132mm;
- Easy to install fan unit fastening in the housing without screws. Interior cover is fastened with only one screw;
- Electrical plug-in connection for quick mounting of the fan unit in the housing;
- Interior cover can be rotated by ±5° which allows compensation of housings installed incorrectly;
- Easy filter change without tools;
- Filter class EU 2;
- Net weight 1.4 kg.

Contact: Billy Wright, Irish Fan Distributors. Tel: 051 - 852404.



Left: Maico Series ER recessed-mounted, single-duct ventilation fan from Irish Fan Distributors.

Sanbra Fyffe Ownership Change

The new owners and Board of Sanbra Fyffe have announced that the £2 million investment programme currently underway at the company is to continue. As part of the programme, a new Hydromec 360 tonne press will be installed at Sanbra Fyffe's Santry plant this month.

Sanbra Fyffe has been acquired by two businessmen from Dungannon, Brian Murphy and Shay McKeown. Brian Murphy becomes Managing Director. He is resident in Dublin and is the owner of an engineering equipment supplies company. Shay McKeown is the former chief executive of Powerscreen plc.

The new owners say that the investment programme provides Sanbra Fyffe with a solid foundation for the future growth of the company. It will also allow the company to continue to exploit further export sales opportunities.

There are no plans to make any immediate changes to either the employment levels or the product range.

Sanbra Fyffe was established in the 1930s. It now employs 100 people and has an estimated annual turnover of £7 million. It manufactures and markets a range of copper compression couplings and fittings for the plumbing industry. It also distributes leading brands in sink units, showers and accessories. While the bulk of Sanbra Fyffe sales is in Ireland, it has been building a strong international customer base in recent years.

Installation Made Easy with Vokèra

The new high-performance and compact Linea combi range from Vokèra incorporates innovative technology to ensure simple, hassle-free installation, servicing and maintenance for the heating professional.

Vokèra recognises the importance of developing high-spec new products which make the installer's job easier, and by taking their comments and concerns into account, the Linea range has been designed to provide real solutions to the problems faced by heating professionals during

installation and servicing.

Key features of the Linea range include:-

- A unique built-in filling loop which covers isolating and filling with one easy control, removing the need for installers to fit the loop as an additional part;
- A pre-fixing jib which allows installation of the Linea without having to mount the boiler until absolutely necessary, helping to combat boiler theft;
- Twenty fewer integral components, making the boiler easier to service and reducing the risk of component failure;
- A unique override facility which puts the boiler on maximum output for flue gas analysis during servicing;

continued on page 4

TRADE NEWS



Vokèra Linea benefits include energy saving, convenience, economical, space saving

- A digital display showing both the operating temperature of the boiler and the running water temperature, in addition to providing reference numbers for easy fault diagnosis.

The combis cover outputs of 9.0kW to 34.0kW and provide hot water outputs of 9.7 to 18 litres a minute at a temperature rise of 35°C. The Linea range also incorporates a hot water pre-heating cycle which guarantees instant delivery of hot water on demand.

Installers can gain practical experience of installing Vokèra products by attending the comprehensive training courses held at the company's new Irish headquarters in Callan, Co Kilkenny.

Contact: Paddy Scriven,
Vokèra Ireland.
Tel: 056 - 55055

BTU Christmas Golf Outing, St. Anne's Golf Club

Winner: E Vickers, G Carlton, G Phelan, Pat O'Sullivan - Nett 47

2nd: Sean Sheehan, John Hunter, Sean Smith, Frank Lynch - Nett 47.5

3rd: Marie Lavelle, John Loughlin, Eamon Walsh, John Littlefield - Nett 47.8

4th: John Lawlor, Dave Cranston, Michael Carroll, Des O'Gorman - Nett 48.4

5th: Michael Morrissey, E Phillips, Aidan Lynch, L McGetterick - Nett 48.6

6th: Kay Gillen, Tony O'Leary, Brian Kearney, Dave Sampson - Nett 49.3

7th: V Broderick, Bob Daly, Dave Harris, David Daly - Nett 49.3

8th: Marianne Sampson, Terry Maher, B Costello, Des O'Sullivan - Nett 49.5

BTU Diary 1999

Tuesday 6th April - Island Golf Club

Tuesday 4th May - St Margarets Golf Club

Friday 11th June - Newlands Golf Club

Friday 20th August - (Captain's) Island Golf Club

Friday 27 - 29 August - Weekend Ballymascanlon Hotel, Dundalk

Thursday 23 September - Old Conna Golf Club

Friday 15th October - Royal Dublin Golf Club

Friday 26 November - St Anne's Golf Club

Buckley & Downie Expansion

Due to continued expansion of the business Paul Lynch has been appointed Design CAD Operator at consulting engineers Buckley & Downie. Originally from Dublin, Paul studied mechanical, electrical and building services engineering at the Cork Institute of Technology, graduating with a Diploma in Building Services.

The two-year, in-depth course also involved comprehensive training in 2D and 3D autoCAD draughting, covering mechanical engineering and building services.

On graduation Paul spent the next three years working and travelling throughout Europe and East Africa, working on various projects which included a conservation and tourism scheme in Western Uganda.

On his return to Ireland Paul worked with a leading air handling manufacturer where his duties involved producing detailed 2D and 3D drawings of air handling units for manufacture on the factory floor.

"Paul joins the Buckley & Downie team at a time of considerable expansion", says Michael Buckley. "His broad-ranging experience, both at home and abroad - along with his autoCAD skills - will bring a new and much-needed dimension to the practice and thereby strengthen the scope and professionalism of the services we provide".



Paul Lynch, Design CAD Operator, Buckley & Downie.

Low-Cost Infrared Temperature Measurement

Non-contact temperature measurement specialist Land Infrared has introduced a new low-cost version of its successful Cyclops Mini Laser compact portable thermometer which is suitable for mid-range temperature applications.

Available from Manotherm Ltd, the new Mini laser has the same

specification and levels of accuracy as the original model, but with a narrower measurement range of -30 to 400°C. It also has an extra feature – a bright, back-lit, display which is automatically activated in poor sighting conditions to ensure legibility.

The portable thermometer is easy to use, providing fast, accurate



The Minolta/Land Cyclops mini laser, mini laser+ and mini view+ from Manotherm.

and reliable spot temperature measurement at a distance in a wide range of industrial contexts.

Applications range from checking the integrity of electrical equipment and building insulation to monitoring production line plant for preventive maintenance purposes.

Mini Laser uses the latest laser technology, producing a circular laser light and centre spot to pinpoint and define the measurement area. All the user has to do is to aim the thermometer, press the trigger, and read the temperature on the external back-lit display.

Mini Laser has a fast response of 0.8s. A choice of continuous, peak or monitor modes is included, along with an audible/visual alarm providing an out-of-range warning.

A single AA alkaline battery is sufficient for approximately 18 hours of continuous operation (six hours if the laser targeting facility is used), and there is an automatic power saving feature.

Contact: Bob Gilbert/Brian Harris, Manotherm. Tel: 01 - 452 2355; Fax: 01 - 451 6919.

Selkirk Common Support Components

Selkirk Manufacturing has introduced a range of common support components for its SM Chimney System, the QC Gas Vent, and the Supra Flue system.

The new common support components are designed to enable a single set of components to be used for any system, therefore considerably simplifying stocking and installation. The components replace the dedicated support components which have evolved in line with the development of each individual system over many years.

The new components include a common support plate; common wall support side brackets; common wall bands and common telescopic floor support. Additional components have been added to the individual product ranges which are purpose-designed to be used with these new common components.

The common support components have been designed to provide variable wall clearance, and in most cases at less frequent intervals, thereby reducing the cost and installation time of a complete system.

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

Maintenance Management Awards

DIT Bolton Street continues to offer the ever-popular part-time evening courses in Building Maintenance Management during this current academic session. Modules on Corrective Preventative Maintenance and Safety, Health & Welfare at work were recently completed recording high enrolment numbers in both.

Commencing late January are modules on – Preparation of Estimates; Contact Law; and Communications Techniques.

The programme runs in association with the Institute of Maintenance & Building Management. IMBM provides participants from both the public and private sectors of the maintenance industry with an opportunity to obtain new and/or additional skills covering various aspects of building maintenance management.

The various modules are presented in a manner that is both relaxed and easy-to-understand, regardless of the experience of those attending. The average duration of each module is 36 hours (12 evenings).

Contact: Fred Hosford, DIT. Tel: 01 - 402 4016.



The presentation of IMBM Certificates for 1997/'98 recently took place at DIT, Bolton Street. Successful recipients were drawn from both the public and private sectors of the maintenance management industry in Ireland

TRADE NEWS

Blackrock Clinic – Smooth Transition to Improved Energy Usage

Blackrock Clinic is Ireland's busiest private hospital with five operating theatres, capacity for 127 in-patients, and extensive day-care and outpatient facilities.

Having successfully applied for grant-aid under the Irish Energy Centre's Building and Energy Management System (BEMS) initiative scheme, the difficult task of installing the new system without any disruption to the day-to-day workings of the clinic was set about.

While still operational,

the existing control system was becoming increasingly difficult to maintain. Furthermore, it was considered to be old technology, hence the need for a fully automatic system employing distributed intelligence.

In summary, the plant in the building consists of the following: two LPHW boilers; nine twin pump sets; four compensated radiator circuits; two HWS calorifiers; and eight air handling units. These items are distributed throughout the building within four

different plantrooms.

Because of the nature of the project and its source of funding, it was vital to obtain data on how the old control system operated and on the associated energy usage. This could then be compared with the performance and energy usage under the new system. Therefore, it was decided to proceed with the installation of any new temperature or humidity detectors required for the new system. These were then used as monitoring and logging devices for a 2-week period. This meant that the new BEMS controllers (outstations) had to be installed in the relevant plantrooms and fully programmed.

This entire plant was, at this stage, still under the control of the old system, but it was now also being monitored only by the BEMS. Because of the disparate plantroom requirements it was decided to use a Trend building management system providing different outstation sizes and a high input/output per cm² ratio, making them especially suitable for retrofitting.

The difficult task of co-ordinating the on-site works so as to ensure minimal disruption fell to Michael Cullen of Standard Control Systems. Michael knew that in order to satisfy the engineers' requirements for full "before and after" analysis, it would not be enough to simply monitor the environmental conditions, the positions of the heating and cooling valves would also have to be monitored while still under the control of the old system.

This task was performed by parallelling the signals sent to the aforementioned valves from the existing control system into temporary input channels on the new BEMS outstations.

Existing valves and actuators were found to be fully compatible with the new BEMS and were utilised so as to keep costs to a minimum. All necessary software programming was completed, as were all graphic slides. The new computer was installed. The communications cable (LAN) between the various outstations was also installed.

With the above in place, all that remained to be carried out was the final new connection from the BEMS outstations to the existing valve actuators.

It is worth noting too that the installation of the BEMS enabled several energy-saving strategies to be incorporated into the design. For example, the radiators are split over four separate circuits, south-east, north-west, core and ground. To minimise the effects of solar gain on some areas, several room temperature sensors were installed so as to set back the flow temperature to the radiators as required. This had an immediate cost saving impact by ensuring that, while comfort conditions were always attained, no area was overheated.

Further energy conservation was achieved by focussing on areas such as free cooling and priority select from reheater batteries.

Wilo-AquaNet – Domestic Hot Water Unit

The Wilo-AquaNet domestic hot water module is a self-contained set for the hot water supply, alternatively by the fast recovery storage or the instantaneous heat exchange methods.

It is suitable for connection to any primary heat supply source, such as oil or gas-fired boilers or district supply heating systems, and can be used for the domestic hot water supply or residential, commercial or public buildings.

The AquaNet module is available either as a wall-mounted unit with thermal insulation casing, or as a floor-mounted model. Both models are fully-packaged, self-contained units, complete with all functions and control equipment. Connections to hot water storage cylinders are done on site during installation. All components are easily front-accessible for maintenance and repair work.

Right Wilo-AquaNet domestic hot water supply module. Contact: Tony Cusack, Wilo Engineering. Tel: 061 - 410963; Derek Elton, Wilo Engineering. Tel: 01 - 492 1080.





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HITACHI is consistently recognised as a global leader in the air conditioning industry.

Reliability. Innovation. Quality engineering. Efficiency. Performance. Excellent product range. Experienced and dedicated distributors. Whatever the criteria, HITACHI air conditioning leads the way.

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WINNER



Air Conditioning Product of the Year

WINNER



Air Conditioning Product of the Year

Danfoss: A Full Package of Controls for Heating, Ventilation & AC

As a global leader in manufacturing automatic controls, Danfoss utilises its considerable resources to ensure its products include the most advanced technology in design, manufacture, and performance of a full range portfolio suitable for heating, ventilation and air conditioning systems control.

VLT600 — A dedicated HVAC Drive: The Danfoss VLT600 Series of variable speed drives are specifically designed for heating, ventilation and air conditioning (HVAC) applications. Dedicated designs incorporating advanced technology ensure savings in energy are achieved and application maintenance costs reduced. The VLT6000 is designed to run in the most arduous conditions, e.g., mains phase loss or fluctuations in mains, or overheating, etc.

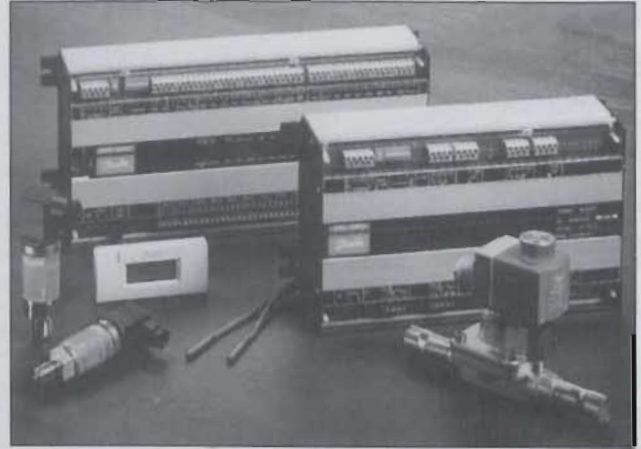
The compact design of the VLT6000 ensures it will fit in the smallest of spaces, while its side-by-side

installation will combine to reduce electrical panel dimensions and costs.

With "everything built inside", the VLT6000 — unlike other speed drives — avoids those costly hidden extras. The VLT6000 includes as standard, for example, a RFI-filter, DC-link coils, and a 2-zone PID-controller, with a wide selection of communication options ensuring ease of interface to BMS.

This innovative, complete and energy-saving drive from Danfoss is ideally suited for both pump and fan applications in HVAC applications and has been applied with considerable customer benefits throughout the Irish market.

IPS Stock Ventilation — As part of its air conditioning and ventilation products package, JJ Sampson & Son also provides a total package of textile ducting channels. Suitable for both heating and air conditioning supply, they



Danfoss Adap-Kool AKC 25H7 is a complete brine chiller controller covering capacity control of compressors and condenser as well as control of heat recovery, brine pumps and central defrost

ensure draft-free fresh air, evenly distributed, while reducing installation costs and creating a pleasant working environment.

Lightweight, varied shape designs — and a wide range of colours — offer a flexible, easily-maintained and aesthetically-attractive finish for the many diverse applications, e.g., offices, canteens, storage rooms, food halls, and food preparation areas.

Adap-Kool water chiller control — The Danfoss AKC24P Series of dedicated water chiller pack controllers is specially designed for both new and retrofit systems to optimise control, monitoring, data logging and energy savings on air conditioning or process cooling applications.

This Adap-Kool controller not alone controls the refrigeration side of the system, but it can also incorporate control of the condenser fans with VLT6000 and be interfaced into standard building management systems.

Programmable room temperature control — The Danfoss Randall HC75 has been developed for both

heating and cooling applications providing simple and easy solutions for standard air conditioning units. The HC75 offers independently-set heating and cooling temperatures, fan speed control (single or 3-speed), on/off or chrono-proportional control, compressed delay timer option, reversing valve ("O" or "B") for heat pump systems, and 5/2-day or 7-day operation.

Commercial system controls — A full range of Danfoss motorised valves, differential pressure regulators and flow controls, and weather compensations complements the overall building services portfolio.

Designed for today's environment and varied application conditions, the motorised valves version of 24V or 230V, pipe sizes up to 6", are available as standard products. Motor versions for 0 - 10v DC, or with manual control and position indicators, are also included in the range.

The differential and flow control valve ranges cover many and varied application potentials, with



Danfoss Randall controls for district heating and central heating systems

AIR-COOLED LIQUID CHILLERS

AQUASNAP™

30 RA

**ONE SPANNER,
ONE SCREW-
DRIVER -
READY**

**AIR
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MADE SIMPLE**



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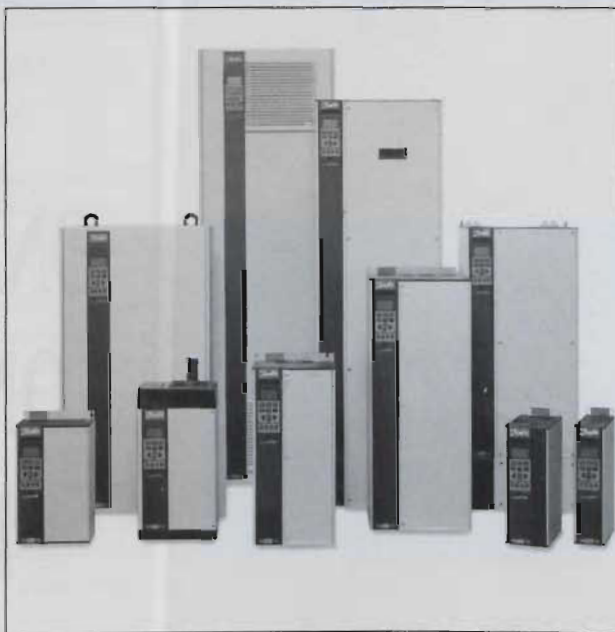


ease of installation to new or existing systems, compact dimensions, and valve cone with pressure relief, for optimum system control effect.

Whatever your controls strategy, Danfoss can offer a comprehensive products range, supported by dedicated technical expertise and services.

Full details on these and other Danfoss HVAC and building services controls are available from JJ Sampson & Son Ltd.

Contact: Brian Maguire, JJ Sampson & Son.
Tel: 01 - 626 8111;
Fax: 01 - 626 9334;
e-mail: sampson@indigo.ie.



Danfoss VLT 6000 (HV-AC) speed drives with dedicated design for pump and fan applications in building services

Robur – Physics and Chemistry as Leaders

The Robur Group was founded in 1956 and now has two factories, one in Italy and the other in the USA, with worldwide subsidiaries and an international distribution network. Innovation, research and development, and concern for mankind and the environment has led Robur to pioneer the development of gas-fired heating and air conditioning technologies. These technologies offer an attractive alternative to conventional systems, particularly given that they do not use refrigerant fluids, such as CFC's, HCFC's and HFC's.

In conjunction with efficiency and reliability, this in-built respect for the environment forms the main advantage of Robur gas-fired, ammonia/water absorption chillers.

What is Gas-Fired

Absorption? – It is a flame that produces cold. This apparent paradox has a particular scientific explanation. In brief, its main concept is in the use of ammonia, as a refrigerant, to cool water. A solution of water and ammonia is heated by a gas burner in the system generator. The ammonia turns into vapour and is separated from the water. It is then transferred to a finned heat exchanger, the condenser, where it is cooled by air and changes back from its vapour state to a liquid state, rejecting heat in the process.

The liquid ammonia then flows through a restrictor metering device and into a second heat exchanger, the evaporator, where, in drawing heat from the water to be circulated to the system terminal units, it cools this water and once again becomes vapour.

The ammonia vapour then passes into the absorber where it meets with the water, initially separated from the ammonia in the generator. The ammonia vapour is absorbed by the water, thus returning to the initial liquid state. This phenomena of absorption gives its name to the cycle.

The obtained strong solution of water and ammonia is then returned by a solution pump to the generator, and the cycle starts again.

Water and ammonia are two absolutely natural elements with full compatibility within the Ecosystem. The use of Robur units eliminates, from the beginning, the risk of dispersion into the atmosphere of chlorine compounds that present incalculable risks for our planet. The use of a natural refrigerant fluid (ammonia) as a substitute for synthetic fluids (CFC, HCFC, HFC) is the guarantee of the

environmental compatibility of Robur absorption units.

Many people remember how, 50 years ago, CFC's were greeted as the answer to many problems concerning refrigeration since they were considered non-harmful. After only 40 years of use researchers realised the possible responsibility of CFC's in Ozone layer reduction and the harmful consequent effects. We are now trying to address this situation with the introduction of new synthetic fluids. But do we know the long-term affects of these new solutions? There is no answer to this question today ... we will have the answer in 30, 50, or 100 years.

Ammonia, however, has existed in nature for millions of years – in the air, in the water and in the ground. It has been friendly to mankind and nature. It presents no threats ... there will be no negative effects on the environment, no unwelcome surprises from its use as a refrigerant.

The technology of gas-fired absorption units, using a water-ammonia mix, has been available on the American market for more than 20 years, on the European market for more than 10 years, and for around five years in Japan and the Far East. There have been over 300,000 units installed (residential, commercial and individual applications) worldwide with an overall capacity of over 5000 MW.

Since 1991, Robur Group (Robur Spa Italy – Robur Corporation US) has concentrated its efforts on

the design and manufacturing of a small-capacity basic unit module (17.4 Kw cooling), and pre-assembled modular units up to 87 Kw. Several much higher capacity modularised plants have been realised (600 Kw and more), ensuring a perfect adaptation to thermal requirement and an absolute global reliability.

The high reliability of the product (due to the absence of major moving parts), its stable operation at low ambient conditions and its use of an alternative energy (natural gas) have contributed greatly to the success of this product.

The high investment by Robur in research activities has now brought to the market place the new Robur, high-efficiency, GA



Robur high-efficiency gas-fired absorption water chiller (water-ammonia cycle) from Tempar.

series chiller and chiller/heater unit which

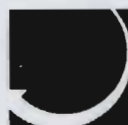
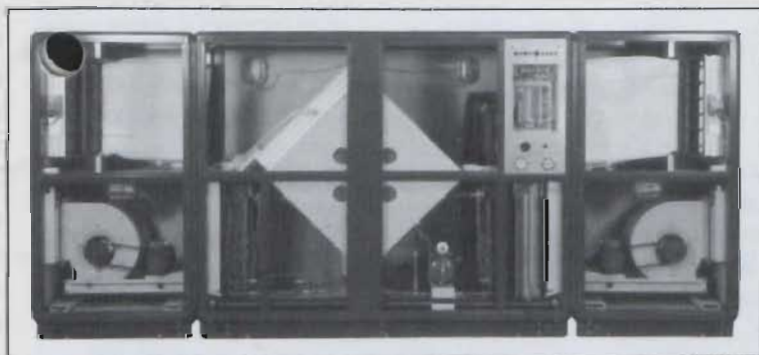
employs a generator-absorber heat exchange

cycle. In addition to an increase of around 37.5% in efficiency, resulting in even lower operating costs, these units will contribute further to the philosophy of Robur ... Respect for the Environment.

Towards the end of 1999, Robur, in collaboration with the US Department of Energy, plans to produce a prototype gas-fired, absorption heat pump unit, which will have an even greater efficiency. Another research activity, currently in progress, is the production of an absorption low temperature chiller, which will cool a fluid down to -10°C for food preservation and technological use.

Contact: Damien Parlour, Tempar. Tel: 01 - 460 4066.

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- ◆ High quality design and manufacture.
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- ◆ Presales and after-sales support.



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Who wants an office, shop, restaurant or bar that's too hot and sticky to stick or too cold for comfort? Not your customers or staff! Your productivity - and your profits - need a temperate climate to grow and flourish. That's why you need Panasonic Air Conditioning.

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suit your office, shop, restaurant or bar, that provide cool, clean air in summer and all round warmth in winter.

**For further information
call Vincent Mahony at
01 456 8070 or fax 01 456 8098**

Walkair

Unit 901, Western Industrial Estate, Dublin 12
AUTHORISED DISTRIBUTOR.

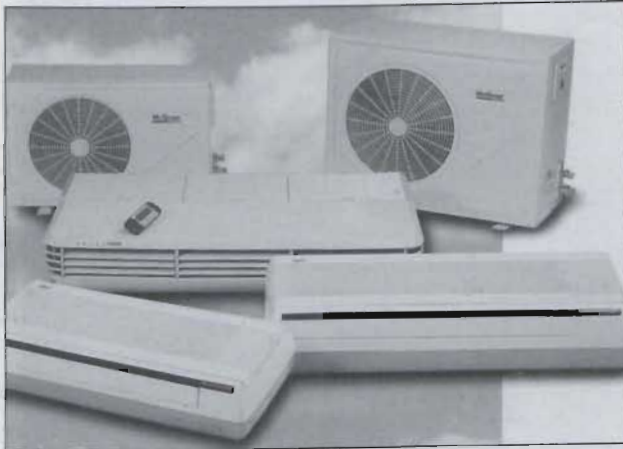
Panasonic

Air Conditioning

McQuay Split-type Heat Pump

Hall Distribution continues to make significant inroads into the split AC market promoting McQuay brand heat pumps. The initial policy to stock heat pumps only has proven successful, with the users enjoying the

pumps up to 22kW;
 - Double and triple multi-splits;
 - A composite range of fan coil units and chiller/heat pump units for 4-pipe; water-based systems in the size range 7kW to



McQuay split air conditioning systems available from Hall Distribution.

added benefit of a heat pump at only a small premium to the already-competitive pricing for the cooling only units.

All products are made by the parent company "OYL" in Malaysia. The coming season is expected to be even busier still for Hall Distribution as a plethora of new products comes on stream. These new products have already undergone extensive field testing in the arduous Malaysian climate and will broaden the existing range. Additions will include:-

- Slim-line, high-wall units, 2.0kW and 26kW;
- A new range of "Convertible" units for low-wall or ceiling-mounting; five models from 5.8kW to 14.6kW;
- Cassette units, with five models from 5.8kW to 14.6kW;
- New sizes of DX heat

176kW.

The range will continue to be strengthened with more equipment from the existing McQuay split-system portfolio for applications up to 22kW. These larger, ducted, systems can be a better alternative to some refrigerant piped systems.

The Irish climate is one of the most clement in Europe and is, therefore, well suited to the use of air sourced heat pumps. The McQuay heat pump can give virtually "automatic climate control" when the unit is left in the "Auto" setting, controlling the room temperature close to the set point and giving perfect sleep comfort to dwellings all year round.

There may have been some element of customer reluctance to use electric heat pumps in the past but customers are now more

aware of all the benefits they entail. Significant savings in heating costs are possible during Spring and Autumn when background heating from a heat pump may negate the need for a separate heating installation, or prevent the costly firing up of a large central heating system for

only a short period.

All McQuay split AC products are supported by a first class after sales service, details of which are available from Hall Distribution.

Contact: Caroline Fagan, Hall Distribution.
 Tel: 01 - 835 2530/
 087 - 2555078.

Liebert 'Challenge' Brings Results

Since its introduction this time last year by distributors Core Air Conditioning, Liebert's Challenger M Series has made considerable market inroads. Manufactured at the company's sophisticated and highly-advanced production plant in Cork, Challenger M has gradually replaced some of the previous ranges such as Challenger 4, Modular Plus, etc.

With Challenger M a single module is designed to go through a standard door and is available as either air-cooled, water-cooled, chilled water or glycol cooled with or without free cooling. In addition, there is dual source version. The system is also available as a dual module unit.

The "SystemLink" controller is designed to provide a simple and flexible means of interfacing with a building management system.

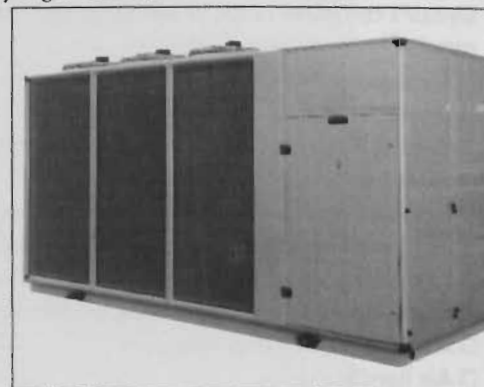
The electrode boiler humidifier handles a wide range of water conductivities completely, automatically using an exclusive Liebert fuzzy logic routine.

The airflow distribution arrangement over the coil is unique to Liebert and ensures maximum efficiency with minimum air turbulence and associated noise.

Liebert's Challenger M Series sets new standards in energy efficiency and flexibility. It is available with zero ODP refrigerant R407C as a standard option.

Other products in the extensive, precision air conditioning range by Liebert include DataMate; MiniTower; the LS400 Console; Modular 3000; Climate 3000; Controllers; Chillers; TeleMate; SlimCool; IntelecCool; Site Monitoring Systems; Power Protection, etc.

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



Designed for heavy duty, round the clock operation, Liebert's extensive range of chillers offer the highest quality with maximum choice. Units are available from 10kW to 700kW

IRISH FAN DISTRIBUTORS



The Malco range is extensive, catering for all ventilation applications. An additional strength is that Irish Fan Distributors has direct on-line access to Malco's central European distribution warehouse (right)



When it comes to air movement and air quality, Maico delivers the most energy-efficient, cost-effective and environment-friendly solution, whatever the application. The entire product requirement is provided, along with all related ductwork, components and accessories.

DYNAIR INDUSTRIAL VENTILATION

Dynair's complete range of industrial fans meets all requirements. Benefits include:-

- Air delivery from 100m³/h to 150,000m³/h and more;
- Total pressure up to 1200mm, w.g.;
- Type of fluid (air, vapours, gas, smokes, etc);
- Explosion-proof;
- Acid and corrosion resistant (construction in PVC, polypropylene, polyethylene, stainless steel etc);
- High temperature (up to 300°C and further);
- Noise reduction by silencer box or duct attenuators;
- Adjustable pitch impellers;
- Air handling units.

A specially-devised, PC-based, fan selection programme is also available.

Contact

IRISH FAN DISTRIBUTORS

Unit 5B, Park Commercial Park,
Park Road, Waterford.

Tel: 051 - 852404; Fax: 051 - 873440.

Website: www.irishfandist.com

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DOI: 10.21427/D7TH8V

AIR MOVEMENT: AIR CONDITIONING AND VENTILATION

New Cassette-Type from Panasonic

Walkair has introduced the new Panasonic range of installation-friendly and space-saving cassette type split air conditioners featuring the low outdoor unit noise levels, twin and triple operation, and wireless remote control.

New research into vane design theory has culminated in the design of a noise-suppressing fan, the unique curved shape of which suppresses the generation of vortices to reduce air flow noise. The outdoor unit of Panasonic's cassette air conditioners are quieter by 5-8dB, equating to a 1/5th audible reduction in sound level compared to past models.

Strengthening of the noise insulation materials in the compressor seals in mechanical noise enclosing and greatly suppressing vibration noise. The heat exchanger, with its L-shaped design, allows air to flow more smoothly, and noise is automatically reduced further during night-time operation with lower outdoor air temperatures.

Twin and triple operation – whereby only one outside unit is required to power two/three indoor units – allows for simultaneous air conditioning of wide spaces and corners. Indoor units with different horsepowers can even be used in combination. Master units and slave units can be set automatically in twin and triple systems (no address setting is necessary) while multiple indoor units can be operated simultaneously with a single remote control unit.

Power supply wiring and other wiring tasks can be carried out much more easily: twin non-polar wires are used to connect indoor and outdoor units. The adoption of connection error prevention circuits, for drive wires and signal wires, means that if a connection error is made the relay will not operate and current will not flow to the circuit boards. The power supply may also be connected to either the outdoor units, or to both



Panasonic's new cassette-type air conditioner from Walkair.

Making things better for your son and **air.**



 **MITSUBISHI ELECTRIC**
AIR CONDITIONING SYSTEMS
the next generation

the indoor and outdoor units. Both wired and wireless remote controllers are available.

All systems are pre-charged to 30m and the height difference and equivalent pipe length has been increased on the two smaller systems by 150% over the current range, making 30m high and 30m long the minimum standard across the range.

Outdoor units may be banked side by side, and all relevant service parts and servicing after installation can be carried out by removing the front covers. Pipes are connected inside the units making the final appearance more attractive. Pipes can be routed outward in any of four directions – forward, right, down and back.

Further features include automatic re-start function; auto fan mode; and dry mode function.

Contact:
Vincent Mahony, Walkair.
Tel: 01 - 456 8070.

R&D Bears Fruit for Stultz

A two and a half year research and development project by Stultz has seen the development of Modular-Line, a modular close control air conditioning product which is now available from Walkair. The new line offers improvements over the company's old range. Total front access has been achieved on all units which now have removable, full-height hinged doors, plus a unique swinging access system.

Additional items include "slide out" electric panels and front withdrawal filter frames. These design changes have made servicing easier without compromising performance.

The system has been improved with almost all heat and noise producing components situated outside of the airflow with the air handling system itself redesigned to produce

a more laminar airflow. The end result is increased cooling efficiency, improved air-flow figures, lower fan power consumption, and overall noise levels cut by around 1-dB (A) across the standard range.

The Modular-Line concept allows what would be a large multi-functional unit to be split into individual modules which can be transported, off-loaded and positioned without special equipment, even where access is restricted. Units can be sited separately, an advantage in awkwardly-shaped rooms with pillars or recesses.

Individual modules can be isolated for service or maintenance without shutting down the rest of the system, or supplied with separate power feeds or from a centrally distributed supply.

All sheet metal

components are made from galvanised steel protected with an epoxy powder coat finish. Extensive use of aluminium, stainless steel and plastics technology is said further to enhance the long life of the units.

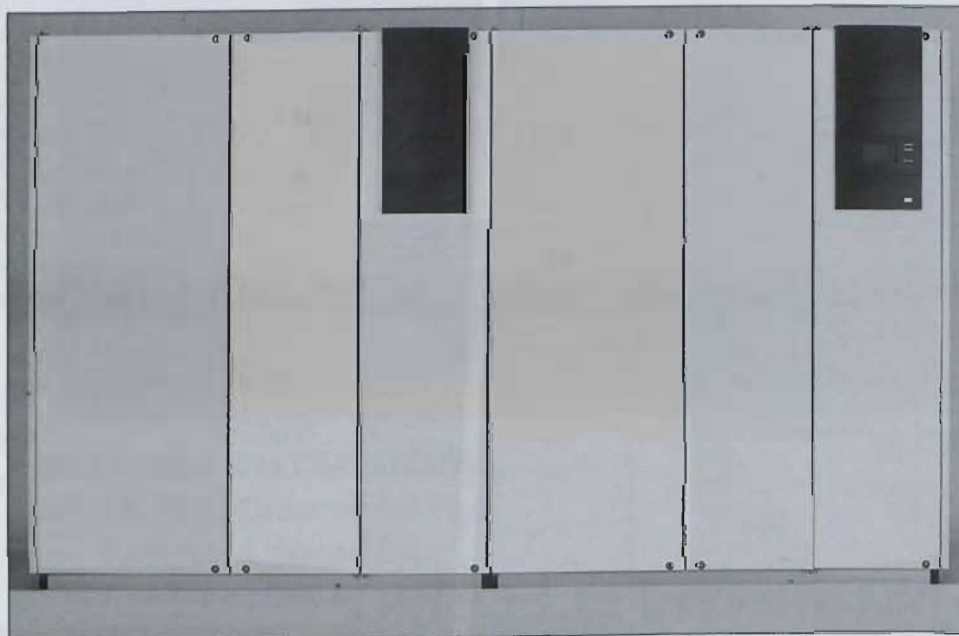
Contact: Vincent Mahony, Walkair. Tel: 01 - 456 8070

Honeywell Electronic Air Cleaner

Honeywell has added the F90C to its range of electrostatic air cleaners. The unit is designed to improve the quality of indoor air by the removal of tobacco smoke, dust, pollen and other airborne pollutants. It can be wall or ceiling mounted in restaurants, bars, offices and other commercial premises, and comes packed with new benefits for the installer.

It is the first time that Honeywell has produced a small, slimline product providing a solution for premises with low ceilings and limited room space. The F90C can be wall-mounted, with the air discharge in any direction depending on specific installation requirements.

The F90C works on the same principle as all Honeywell electrostatic air cleaners. Stale air is drawn into the cleaner and passed through the electrostatic cell which removes smoke particles and other pollutants. Clean air is then circulated back into the room through adjustable louvres that allow the installer to direct the air stream where most appropriate to maximise



Stultz's modular close-control ... from Walkair

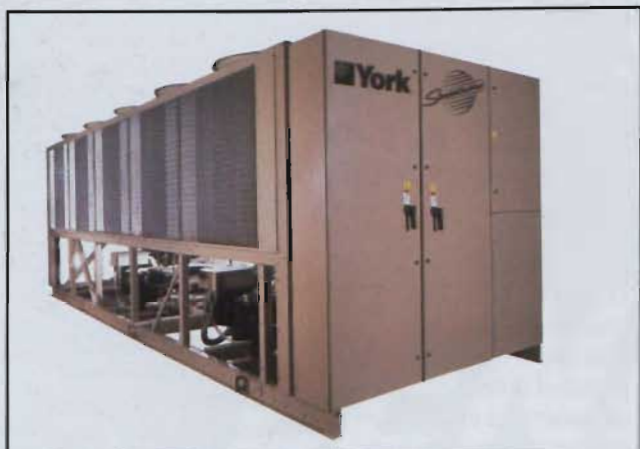


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The York YCAS StratoChiller air-cooled screw chiller



The York ACR unitary range is extensive, offering a comprehensive choice of solutions



York ACR's air handling units are all CE approved and factory checked before being despatched



York ACR can provide an infinite variety of refrigeration solutions, be the requirement large or small. Witness to scale of the units above which are part of the refrigeration system devised and installed in the Channel Tunnel

For further information contact:

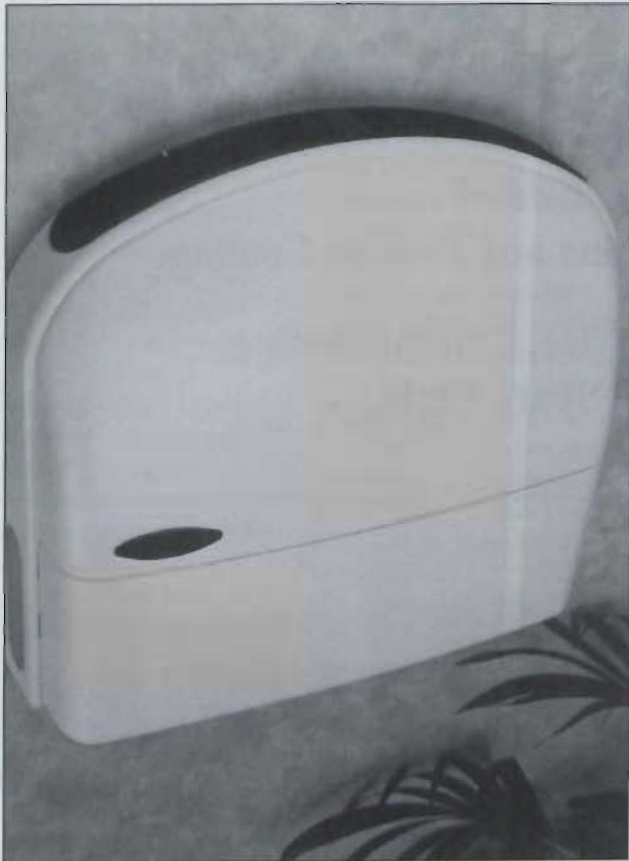


YORK INTERNATIONAL

Unit 2004/3 Citywest Business Campus,
Naas Road, Dublin 12.

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

CORK: Tel: 021 - 346580; Fax: 021 - 346586



The Honeywell F90C small electronic air cleaner from Walkair.

the benefit for the end user.

The F90C is available in off-white and anthracite, has a built in carbon filter for odour removal, and three fan speeds that can be operated via an infrared remote control. It features a solid state power pack

which is self-regulating and maintains peak efficiency over a wide range of dirty cell conditions. The electrostatic cell can be easily removed for cleaning.

Contact: Mark Kenny, Walkair. Tel: 01 - 456 8070.

Lennox & Walkair – for 'Best Value' HVAC Solutions

Lennox Industries, the American air conditioning manufacturer, has appointed Walkair Ltd, one of Ireland's leading HVAC distributors, as sole distributor for the full range of Lennox equipment. Walkair already holds a number of other air conditioning franchises, the composition of the portfolio being carefully designed to match "niche" market requirements.

Prior to this new agreement, only the well-known Lennox rooftops range had been available in Ireland. Walkair will now make a wide range of Lennox products and systems available. In addition to the rooftop packaged units manufactured in the UK, Lennox also manufactures fan coil units; air-cooled and water-cooled chillers from 5 to 1400kW; air handling units; and condensing units.

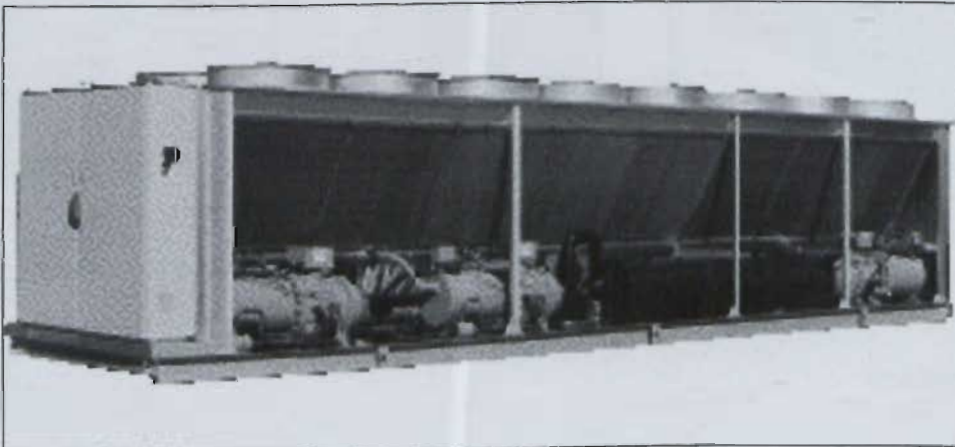
The agreement with Walkair has been negotiated to meet Lennox's requirement to

match its latest successes in other European markets in Ireland. Over the last two years Lennox has grown substantially through acquisition in Europe and, as a result, has been able to change the way in which the industry in Europe is supported.

This process picked up significant momentum in 1995 with the establishment of Lennox Global Ltd to operate throughout the world outside North America. Lennox also bought 50% of Brancher Group and set up HCF-Lennox partnership. Companies comprising the new group are – Lennox Industries (Northampton); Sofica Industrie (France); Geniclima (France); HCF (France); Hyfra Industriekuhanlagen (Germany); Refac BV (The Netherlands); and Lennox Refac (Spain).

In 1997 Lennox Global Ltd bought a controlling interest in HCF-Lennox and opened its European headquarters in Brussels, Belgium a year later.

Using a partnering approach, the company is increasingly being asked to provide "expert systems" advice to clients, and to supply complete systems for air conditioning and heating projects in many European countries. There are many benefits to be gained from a partnering approach, and in Ireland large international companies and consulting engineering practices are also interested in doing business this way.



Lennox LCH packaged air-cooled chiller, available with reciprocating scroll or screw compressors. Capacity range: 210kW to 1400kW. Details from Walkair.

Walkair

&

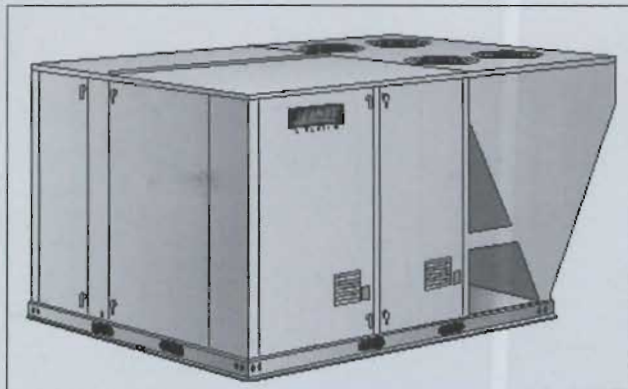
LENNOX[®]

Changing the Rules

Industrial Range



667 1077; Fax: 01 - 667 1055; Email: vent@iol.ie



Lennox "L" Series roof-top packaged units available in heat pump, cooling only and cooling with gas heating. Cooling capacity range: 20kW to 98kW. Details from Walkair

Walkair has a well-known pedigree. It was established in 1996 by Adrian Cooke and his colleagues to retain key-personnel of the former Walker Air Conditioning Ltd, Dublin. Since then it has gone from strength to strength and its core team of qualified engineering specialists is backed by a small, highly-experienced administrative and financial team who provide marketing, logistical and financial support to ensure that client expectations are met.

Lennox will provide specific product and systems training, as well as further technical support, although these are areas in which Walkair is already seen as having outstanding strengths.

Walkair's Tom McDonald has already been to the Lennox manufacturing facility in Lyon, France, where he witnessed first-hand the state-of-the-art production systems which will guarantee high-quality products with short lead times. "I'm impressed with what I've seen to date", says Tom, "and am looking forward to handling this full range of high-

efficiency, screw and reciprocating chillers. They are available with electronic expansion valves and are designed to operate on R22 or R407C ozone-friendly refrigerants".

In Dublin recently to mark the appointment, Lennox Director Brian Pestana said: "This is a very exciting opportunity for Lennox and Walkair. Together we now offer something new in terms of improved product ranges, new management and a professional systems approach, which we will develop on a partnership basis to help our customers address 21st century construction industry needs in a different way.

Contact: Tom McDonald, Vincent Mahony, Walkair. Tel: 01 - 456 8070.

RDS Showcase for Mark Éire

The Shelbourne Hall in Dublin is a newly-constructed exhibition hall – measuring 2000 sq m – adjoining the main hall in the existing RDS complex. Mark Éire BV were involved in this project from its initial design date. The heating and ventilation system chosen consists of a natural gas-fired high air volume dilution make-up system.

The plant for this comprised two externally-located, high-level, mounted direct gas-fired air handling units. Each unit was delivered fully-assembled to site and consisted of a full weatherproof enclosure constructed from Almg³ metal housing the gas burner; burner controls; centrifugal fan and motor; high temp filters; motorised damper; and outlet attenuator.

The entire project was overseen and managed by Colleen Project Management with Bradco contractors carrying out the construction work. Mark Éire were contracted to manufacture, supply and oversee the installation of

the equipment and associated services. The actual installation proved both challenging and difficult as an existing 150mm diameter live gas main had to be re-rooted in conjunction with the relocation of the gas meter. All of this had to be done while no interruptions to the RDS complex gas usage was permitted ... business as usual for the RDS!!!

The two AHUs were specially manufactured in the Mark factory and delivered to Dublin, each one occupying the full space of a 40-foot open-backed trailer unit. Once the structural steelwork was in position, each unit was lifted into position on site by means of a 180 tonne crane ... one lift involved a 35m reach spanning over the new hall, with 2.2 tonnes of AHU to place.

Having successfully positioned the AHUs, completed the gas pipework, installed the electrical wiring, ductwork and grilles, the only item which remained to be finished was the BMS. Again due to the RDS relocating its management offices to a new building approximately 400m away, an underground dedicated BMS Belden line was installed from the AHUs to this position.

The entire construction programme took four months, so that the hall



Left: The Shelbourne Hall, RDS, where Mark Éire was responsible for the entire heating and ventilation system.



The Mark Eire external gas AHU's at the Shelbourne Hall, RDS.

could be ready for the Horse Show in August. Indeed, the first occupants to experience the Mark system were the horses competing in the Horse Show events. Cool ambient air (93,000 m³/h) was blown into the Shelbourne hall during Horse Show week as this is where the temporary stables were housed for the event.

The units described above are possibly the largest of their kind of direct gas-fired units in the country – with a capacity of 800kw, fully-modulating at 25:1 turndown and 46,800 m³/h of air per AHU.

Contact: Maurice Byrne, Mark Eire, BV. Tel: 01 - 668 0510; Mairead Twomey, Tel: 026 - 45334.

Tempar — Providing 'Total AC Solutions'

Tempar Ltd is a name which is synonymous with air conditioning. Long-established and with a reputation for delivering quality air conditioning and ventilation solutions for all manner of air movement requirements, Tempar offers an extensive product portfolio and a comprehensive range of support services.

Tempar employs a total of 22 administrative and engineering personnel, 16 of whom are highly-experienced and fully-qualified engineers. Between them they cover the entire country, providing nationwide installation, after-sales support, maintenance, and site survey services on behalf of an extensive client list taking in all manner of applications, from commercial through to industrial.

Apart from support services for products supplied by Tempar itself, the company offers a full package of tailored, contract maintenance services on any range of equipment.

As for Tempar's product portfolio, it comprises brand-leading names which are at the forefront of air conditioning technology. Included are the following:

Mitsubishi Electric — Full range of split-type ac systems including cassettes, ductable, ceiling-suspended, high-wall and floor console units; City Multi R2 and Y Series of VRF multi-split systems; Roof-top packages; Lossnay total heat exchange ventilators;

Seveso — Chillers (air cooled and water cooled), fan coil units (cassette, ductable fan fan, ductable cen fan, ductable



Providing a quality service is ultimately about people ... Tempar has the correct calibre people

hi-press and floor standing), and portable air conditioners (single-pack and split-type units);

Robur —

Modular-type, gas absorption chillers (see page 10).

Contact: Damien Parlour, Tempar. Tel: 01 - 460 4066.

Aquasnap — 'All-in-One' Air Conditioning from Carrier

Core Air Conditioning has just introduced Aquasnap, a unique "all-in-one" air conditioning concept that comes complete with all the necessary hydronic components such as circulating pump, expansion tank and filter,

and all control and safety devices.

For optimum performances, Aquasnap is equipped with very quiet and vibration-free scroll compressors. They are especially designed to run on refrigerant R-407C, and

offer excellent energy efficiency, while remaining economical in energy consumption.

Well-known for their durability and reliability, the scroll compressors excel through their remarkable characteristics. These include:

- a motor cooled by suction gas which allows up to 12 starts per hour, eliminating the need for

buffer tanks;

- Safety valve for unimpaired compressor operation in case of reverse rotation due to incorrect electrical connection;
- Maintenance-free.

Finally, the use of two compressors per circuit, switched in parallel (from size 30RA 050) permits a reduction of the inrush current and excellent part-

reconair

ENGINEERING

COMPLETE AIRCONDITIONING PACKAGE

Sales

Maintenance

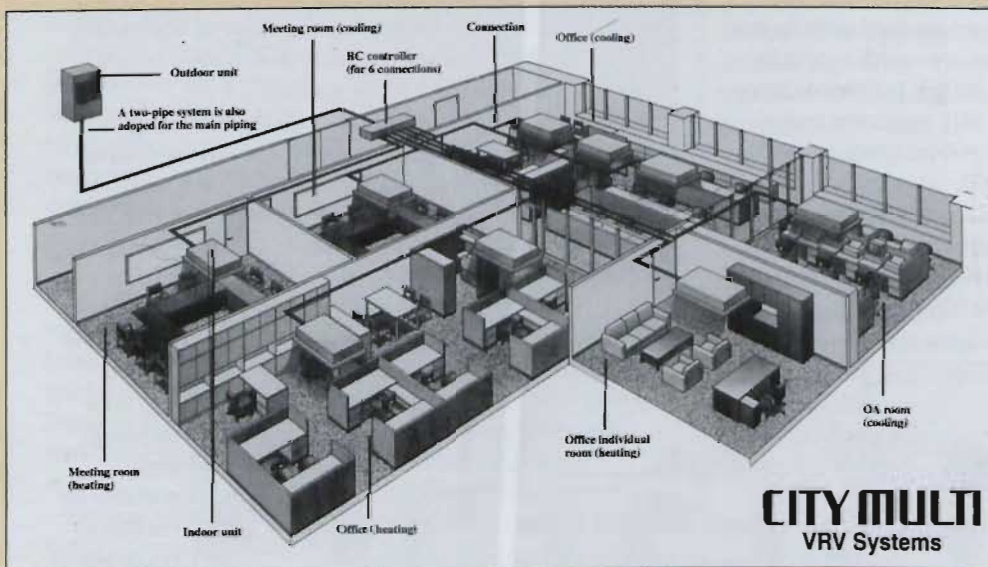
Service

Suppliers of



MITSUBISHI ELECTRIC

Environmental Control Systems



- ◆ City Multi VRF Systems
- ◆ DX Split Systems
- ◆ Lossnay Heat Exchangers
- ◆ Roof Top Heat Pumps

ALSO SUPPLIERS OF

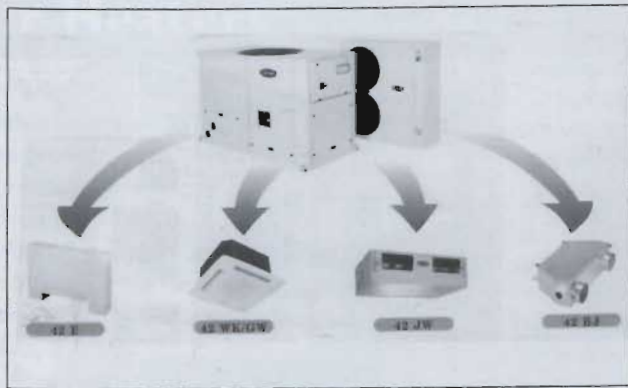


Close Control Computer and Telecommunications Equipment

Defensor. Humidifiers & dehumidifiers



I.S. EN ISO 9002



Carrier's Aquasnap – chilled water terminals: multi-choice comfort solutions from Core Air Conditioning.

load efficiency.

For the Aquasnap Carrier deliberately chose HFC-407C because it is a non-polluting, chlorine-free refrigerant which has no effect on the ozone layer. This refrigerant has been extensively tested by Carrier for several years, and offers the same performance, economy and reliability guarantees as R-22.

The plate heat exchanger, using the thermodynamic advantages of R-407C, ensures performances that are even higher than those of R-22 – and this without extra cost. "Ecology and savings ... everybody wins!" says Core's Austin McDermott.

From size 30RA 040 onwards, the Aquasnap uses Carrier's second-generation Flying Bird fan, which employs aircraft technologies. It is much quieter, offering optimum acoustical qualities, mainly by eliminating the irritable peaks in the low-frequency range.

The secret? A carefully developed multiblade design with a rotating shroud eliminates the leakage between the fan

blades and the shroud. The vortex noise is eliminated, and the fan performance is increased by 30%.

In addition, at part-load or at average outdoor air temperature, for example during the night, the fan speed is automatically reduced by 50% for even quieter operation. And finally, the control system allows programming of operation at reduced speed for a predefined period.

To reduce problems further, Aquasnap features a unique fan mounting! Instead of fixing the fan on top of the unit, the source of amplified and transmitted vibrations to the rest of the casing, Aquasnap has chosen a unique solution.

The Flying Bird is in fact supported by a very rigid tower chassis. Fixed to the base of the unit, this 'honeycomb' chassis also supports the evaporator. The weight of this component thus contributes to the stability of the assembly.

Separated from the top panel and from the unit casing, fan operation is even quieter.

In the low capacity range

(models 30RA 0-17-033) Aquasnap uses two very quiet, small fans with horizontal discharge. As with the largest units, their operation is electronically controlled based on the operating conditions, the outdoor temperature and the load.

Just as the "all-in-one" concept makes installation simple, Aquasnap's Pro-Dialog Plus system means that control and efficient operation is also simple.

Among the many beneficial features is the auto-adaptive control for improved chiller protection. This system permanently optimises the compressor operating times based on the inertia of the application. Short cycling, which can damage the compressor is thus eliminated.

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

Harmon – 'The Specifiers Choice'

Harmon Air Conditioning is among the leading providers of air conditioning and related services to the Irish building services sector.

Quality of service, quality of product, and quality of performance underpin the Harmon trading philosophy, tailor-made solutions being devised to satisfy each particular situation.

The company's ISO 9002

accreditation confirms this standing.

Mechanical consultants, contractors, architects and developers all acknowledge the confidence with which they can appoint Harmon Air Conditioning.

This is particularly so with unusual and difficult projects where flexibility and a willingness to work with the client to devise tailor-made solutions is the only way forward.

Engineering personnel are highly-qualified, experienced, and fully-trained. A continuous assessment and training/development programme ensures that they remain so.

As for the product portfolio, Harmon Air Conditioning aligns itself with market-leading, quality-driven, suppliers. These include Mitsubishi Electric, Clima Systems, Four Seasons, Essekkappa, and Klimatechnik.

Complementing the product portfolio is a comprehensive installation, after-sales service and maintenance facility.

Brief details of each of the principals product portfolios are as follows:-

Klimatechnik Chillers – The Klimatechnik portfolio comprises air cooled water chillers with axial fans, designed to produce chilled water and for outdoor installation. The supporting frame consists of strong, electrically-welded sections, painted with a coat of epoxy primer and two coats of finish paint (RAL 7001). Cladding panels are of pre-painted (RAL 7038) galvanised steel.

Optional accessories

AIR MOVEMENT: AIR CONDITIONING AND VENTILATION

include chilled water pump and storage water vessel; total or partial heat recovery condensers; desuperheaters; liquid receivers; low ambient control to -8°C ambient; variable fan speed low ambient control to -18°C; main isolator with door lock; self-regulating evaporator heater; control transformer for auxiliary circuit; additional compressor steps; part-winding start for twin-compressor; hotgas by-pass; refrigerant and oil pressure gauges; copper/copper condenser coil; and condensing coil protection grilles.

Four Seasons Essekkappa - This range is divided into four primary groupings:-

□ JWA - Chillers, heat pumps and

motocondensing units with axial fans and scroll compressors (5kW to 35kW);

□ JWR - Chillers, heat pumps and motocondensing units with centrifugal fans and scroll compressors (5kW to 34kW);

□ JWH - Chillers, heat pumps, motoevaporating and motocondensing units with scroll compressors (5.4kW to 36.3kW);

□ TAC - Air handling units incorporating direct expansion unit, heat pump unit and chilled water unit (5.8kW to 22.5kW);

Mitsubishi Electric - For details of the Mitsubishi Electric range see page 30.

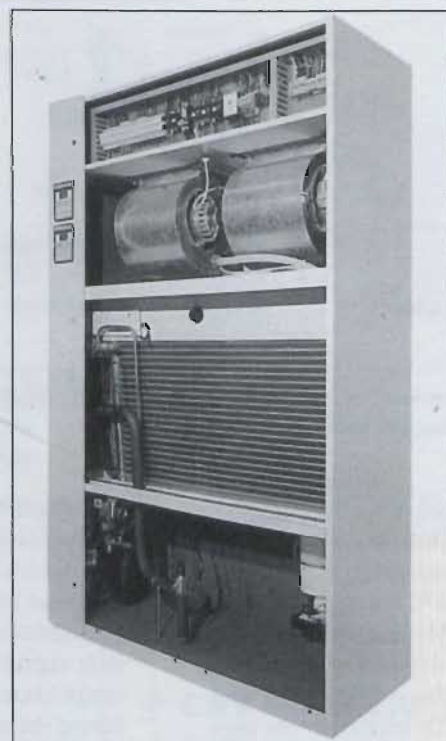
Clima MC - The Clima MC air conditioning unit belongs to the Technical Wall Series and its vertical

design guarantees a reduced footprint and minimum floor space occupancy.

Because there is no requirement for lateral service areas, the units can be placed side by side.

The MC air conditioning units can be either upflow or downflow.

Contact: John Harmon, Harmon Air Conditioning Services. Tel: 01 - 456 4233.



Clima MC air conditioning units offer full frontal access for all standard maintenance and repair work.

ENERGY SAVINGS ON WATER CHILLERS WITH DANFOSS ADAP-KOOL® SYSTEM



- ◆ Simple to install in new or existing systems
- ◆ Close optimised performance and control ensures reduced running costs
- ◆ Short payback period
- ◆ Improved plant lifetime
- ◆ Data logging and monitoring via PC/BMS



J. J. SAMPSON & SON LTD.

Member of the Danfoss Group

Nangor Road Business Park, Dublin 12.
Tel: 01 - 626 8111; Fax: 01 - 626 9334
e-Mail: sampson@indigo.ie

Air Heaters

The Mark GS gas-fired suspended air heater is an all-round product. Its wide industrial usage makes it one of the top products within the Mark range, its excellent price/performance ratio makes the Mark Gas air heater above all a European product. It is exported to more than fifteen countries. Available in suspended balanced flue room sealed or conventional flue type 18 to 98kW.



Ecofan

Winter units which on the one hand ensure a temperature gradient which is as low as possible and on the other hand



are promptly able to extract, (summer/winter unit) should working conditions make this necessary

Tanner

The Mark Tanner is an indirect water, steam or thermal oil fueled air heater. Its design and the use of first class components makes it a popular product with a big future. Many accessories complete the Tanner range such as fresh air or recirculation components as optional. Low pressure hot water unit air heaters from 8 to 126 kW.



Calflo

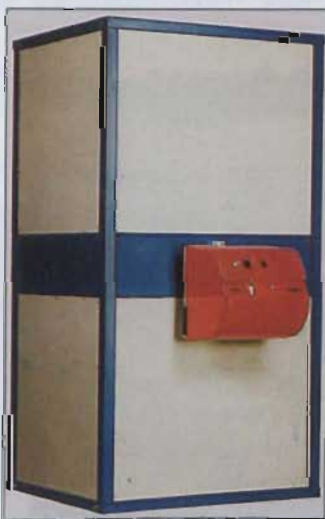
The Mark Calflo make up air heater is a solution in all situations in which large quantities of (polluted) air are



extracted, which is the case in spraying rooms, welding halls, machine factories and the plastics industry. The fully modulating burner makes an optimum balance of required heat and ventilation possible.

Föhn

The Mark Föhn has been a unique product for years. Its fully dismantlable construction means that the Mark Föhn can be installed in situations in which ready-assembled products cannot be installed. Combined with its superior performance, this makes the Föhn widely applicable. Thus the Föhn is often installed in commercial and industrial halls, government buildings and churches. Oil or gas-fired high output cabinet air heaters 50-400 kW.



Infra

As a black tube radiator, the Mark Infra 13-38 can be installed for space as well as local heating. It emits energy in the form of radiant heat which has the advantage of ensuring a pleasant, comfortable surrounding temperature. Suspended radiant tube heaters 13-38kW output. Conventional or balanced flue models.



Mark Eire bv, Coolea, Macroom, Co Cork. Tel: 026 - 45334; Fax: 026 - 45383.
Dublin: Tel: 01 - 668 0510; Fax: 01 - 668 0510.
Mark bv, Beneden, Verlaat 87-89, 9645 BM, Veendam, Netherlands.
Tel: +31 (0) 598 619600; Fax: +31 (0) 598 624584



Hitachi Continual Expansion

Hitachi Air Conditioning Products Europe, (HAPE), the European manufacturing facility, based in Barcelona, Spain has recently further upgraded its quality control and research and development procedures by extending the use of the "Calorimeter" test facility.

"This state-of-the-art, purpose-built facility is used for ongoing quality control, as well as research and development and new product/model testing", says Brian McDonagh of Irish distributors Rink Air Conditioning.

Special condition testing is also undertaken in the calorimeter, whose wide operating condition options can replicate even the most severe conditions. It is possible to test both indoor and outdoor units in separate and fully independent chambers between -10°C and +55°C, with relative humidity levels ranging from 35% to 90%.

The HAPE calorimeter automatically tests over a 200-unit operating parameter, including running amps, airflow and capacity, and all data is centrally gathered and analysed. Test times vary according to project requirements and the facility is regularly checked in order to ensure its continued accuracy.

This test facility has become an integral part of both the research and development process, as well as ongoing production monitoring, allowing the HAPE factory to vastly

increase the range of products they manufacture. Recent product line expansions, as well as the successful launch of R407C systems, are a direct result of the investment made in the calorimeter test facility and further product releases are planned for early 1999.

Hitachi CS-Net - As may be expected from one of the world's leading electronics companies, Hitachi has launched the latest version of its Central Station Network (CS-Net) control system for their "Set-Free" VRF and Utopia Supercharge systems.

The Hitachi CS-Net is a PC-based control system, which operates in a Microsoft Windows TM environment and offers the user unprecedented access and control of the air conditioning system. Installation for "Set-Free" applications is remarkably simple, with connection only required between the outdoor unit, on to CS-Net interface and then on the

back of the PC. No costly and difficult wiring is required between the indoor units as is the case with other manufacturer's control system for VRF systems.

In terms of operation, the Hitachi CS-Net offers the user the opportunity to remotely control all system operating parameters, as well as allowing the monitoring of all system alarms. The latest version CS-Net also incorporates the flexibility for a service partner to connect into the client's system, via a modem, in order to provide the end-user with 24-hour service cover if required.

While the Hitachi CS-Net is possibly the most advanced VRF control system available in today's marketplace, it is extremely user-friendly and is available at a fraction of the cost of alternative control systems.

Contact: Rink Air Conditioning. Tel: 01 - 456 9469; Fax: 01 - 450 4314; Email: rink@iol.ie Website: www.\rinkairconditioning.com

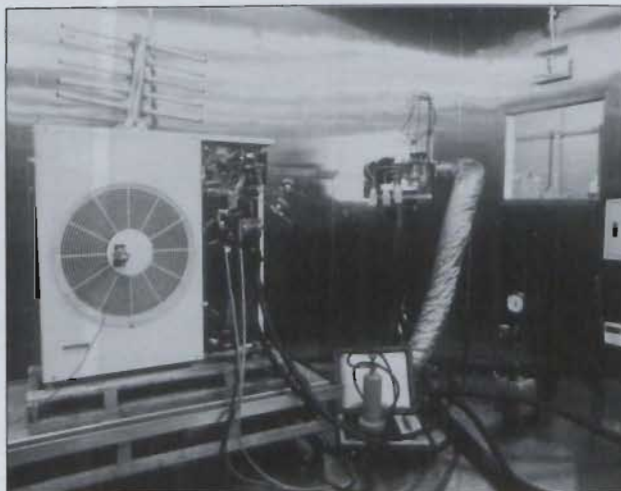
Reconair Engineering — Where Quality is Paramount

A sister-company of Reconair Services, Reconair Engineering is the product distribution vehicle of the Reconair Group, established to handle the product supply side of the business. While the Reconair philosophy is to offer total solutions, the primary brand names within the portfolio are Mitsubishi Electric and Denco. Brief details of the features and benefits offered by both, follow:—

Beginning with Mitsubishi Electric, City Multi is the networked solution for air conditioning comfort pioneered by the industry market leader.

City Multi R2 provides intelligent air conditioning giving simultaneous cooling and heating. The R2 offers a "networked solution" to the diverse requirements of modern office layouts. One meeting room may require heating, while another needs cooling. Mitsubishi Electric's unique two-pipe refrigerant circuit meshes perfectly with these requirements. Simultaneous cooling and heating is provided through decentralised conditioning in individual zones.

With City Multi Y, multiple indoor units and free piping can be configured to conform to any layout. The Y models



Calorimeter testing facility at Hitachi's Spanish factory near Barcelona, Spain. Details from Rink Air Conditioning



AROBUR®

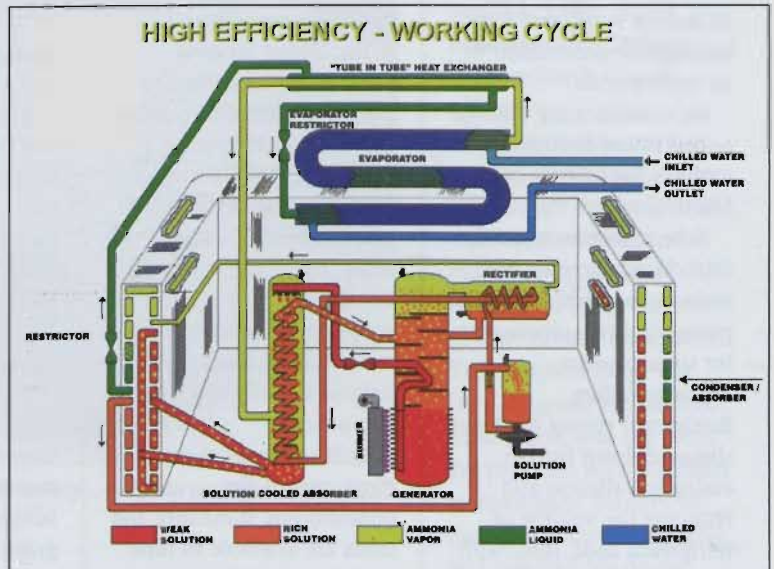
THE FLAME THAT COOLS

**WORLD-WIDE
PREVIEW**

**SERIES GA
HIGH EFFICIENCY
GAS-FIRED
ABSORPTION CHILLER**



ACF 60-00 Chiller (17.5kw)



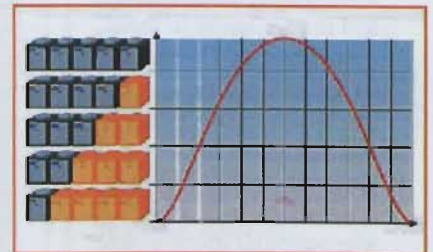
THE SAFE AND EFFICIENT OPTION

- ◆ Uses only natural fluids — no harmful gases
- ◆ Low running costs — Up to 30 years product life
- ◆ Consistant performance and reliability
- ◆ Modularity and complete flexibility
- ◆ Minimum electrical cabling requirement
- ◆ Simplicity — no compressor
- ◆ No internal boiler space required - no flues



RTCF 240-00 Pre-Assembled Module (70kw)

CONSCIOUS OF THE ENVIRONMENT



Unit Staging to Meet Load



AYF 60-108 Unit
(17.4kw cooling – 28.4kw heating)

HEATING AND COOLING MODEL

- ◆ Summer/Winter, cooling/heating — 2-pipe applications
- ◆ Simultaneous Cooling/Heating — 4-pipe applications
- ◆ Production of Domestic Hot Water

FOR THE FLAME THAT COOLS ... TEL: 01 - 460 4078

now boast a more powerful setup, with an 8-horsepower connection to 13 indoor units, and a 10 horsepower-connection to 16 indoor units.

Air Conditioning tailored to individual circumstances ... that's the essence of City Multi Y.

New refinements just introduced allow an even more economical use of the pioneering two-pipe system for simultaneous heating/cooling.

Refrigerant piping has been slimmed down further, easing installation and reducing the volume of refrigerant used. Also, with unified remote control for indoor units, plus a central controller, operation has never been easier.

As a final refinement, R2 is an industry leader in terms of low noise operation, setting new standards of quiet efficiency.

Turning to Denco, this is a world-class manufacturer and market leader in close control air conditioning equipment, which is specifically designed for precise control of air temperature and quality in applications such as telecommunications suites, data centres, clean rooms, laboratories, etc. Denco places great emphasis on achieving the highest standards of project management and incorporates stringent quality controls throughout its operations.

It has a substantial air conditioning unit manufacturing base in Hereford, England, supported by strategically-located regional offices and a highly trained and

dedicated network of distributors, Reconair Engineering being responsible for Ireland.

The Denco Toscana range of air conditioning units is designed to provide the ultimate in precise control of temperature, humidity and filtration in small to medium sized areas. The concept is based on the reliability, efficiency, flexibility and serviceability that is the hallmark of all Denco equipment.

Built to international close control air conditioning standards, the units are available in nine cooling capacities ranging from 3kW to 20kW. A footprint from just 300mm x 600mm ensures minimal presence and front access allows for maximum utilisation of remaining floor space. Energy efficient cooling, available on a year

round 24-hour basis, is achieved through exploiting new technologies such as energy saving scroll compressors.

Available in both upflow and downflow configuration, air cooled, water cooled and chilled water versions, Toscana units incorporate Denco's Millennium, the high-tech 16 bit microprocessor based controller.

Applications include computer rooms, telecommunications and switching stations, laboratories, printing and graphics areas, dealer rooms and clean rooms, control and instrumentation rooms, and high-tech office suites.

Contact: Mark Cooney/Brian Cooney, Reconair Engineering. Tel: 01 - 842 5200.

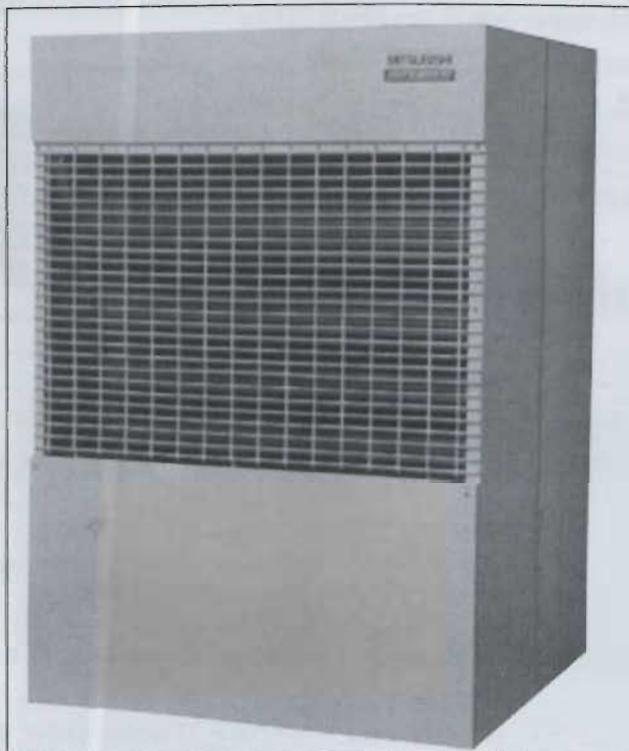
Mitsubishi Electric – 'Setting Industry Standards'

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

A phased introduction of Mitsubishi Electric City Multi and P Series products began last year and these new products will be optimised for, and introduced with R407C. During the phase-in period both R407C and R22 products will both be available to ensure continuity of supply.

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

City Multi VRF — The new City Multi Y-series units were introduced in June last year. The expanded model range has been designed to have improved combined COP's, be lighter, quieter, and



Mitsubishi Electric's City Multi Systems — City Multi Y and City Multi R2 — are available from Reconair Engineering.

have even smaller refrigerant charges.

These City Multi Y-series units are now available ex-stock in R407C optimised versions. The City Multi R2 versions are scheduled to come on stream at the end of March 1999.

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

Mr Slim M-Series — Although rapid introduction of R407C refrigerant models in this range would be possible, Mitsubishi Electric opted for dramatic re-engineering and is gradually introducing R410A models from this year. This will significantly improve the M Series COP's and make them extremely compact units. Much of this range will become inverter driven as standard for further improved efficiencies.

Like so many other industry sectors, the name Mitsubishi Electric has become synonymous with quality, innovation and market-leading status in air conditioning. The scope of the portfolio is all-embracing, and is designed to cater for all conceivable requirements in an efficient, cost-effective,



Highly-efficient, powerful cooling ... roof-top packages from Mitsubishi Electric

safe, and environmental-friendly manner. It is also dynamic, forever developing and changing to incorporate yet more features to provide still further benefits.

Indeed, such is the diversity of applications catered for that it would be impossible to cover them all in the space available here. Consequently, what follows is but a brief resumé of the overall portfolio.

We begin with City Multi, the networked solution for air conditioning comfort pioneered by Mitsubishi Electric. City Multi R2 provides intelligent air conditioning giving simultaneous cooling and heating. The R2 offers a "networked solution" to the diverse requirements of modern office layouts. One meeting room may require heating, while another needs cooling. Mitsubishi Electric's unique two-pipe refrigerant circuit meshes

perfectly with these requirements. Simultaneous cooling and heating is provided through decentralised conditioning in individual zones.

With City Multi Y, multiple indoor units and free piping can be configured to conform to any layout. The Y models now boast a more powerful setup, with an 8-horsepower connection to 13 indoor units, and a 10 horsepower-connection to 16 indoor units.

New refinements just introduced allow an even more economical use of the pioneering two-pipe system for simultaneous heating/cooling. Refrigerant piping has been slimmed down further, easing installation and reducing the volume of refrigerant used. Also, with unified remote control for indoor units, plus a central controller, operation and control has never been more user-friendly.

As a final refinement, City Multi is an industry leader in terms of low noise operation, setting new standards of quiet efficiency.

Mitsubishi Electric roof-top air conditioners – Series PRH-L – are available in a wide range of sizes and models to enable the designer to select the best model for each application. The complete range has been designed for outdoor installation, and the units are provided with the latest technological features to ensure economical, reliable and comfortable ducted type air conditioning. They consist of compressors, air-cooled condensers, evaporator fans, condenser fans and auxiliary and control equipment, completely packaged in a water-proof enclosure.

With the development of PRH-L Series demands for such features as light weight, compactness, increased capacity, appropriate static pressure, air flow control, and having flexibility of interfacing energy saving electronic controls, Mitsubishi Electric has met and exceeded market expectations.

All units are factory assembled, piped, internally wired and fully charged with R-22. They are also tested and checked under a strict quality control system in the factory. Exterior surfaces of all units are phosphatized, zinc-coated steel with acrylic resin primer and ivory white-baked enamel finish.



HARMON AIR CONDITIONING SERVICES

Commissioning and Maintenance Refrigeration, Air Conditioning, Boilers, Burners,
Suppliers of Air Conditioning Units, Computer Room Packages, Chillers and Heat Pumps

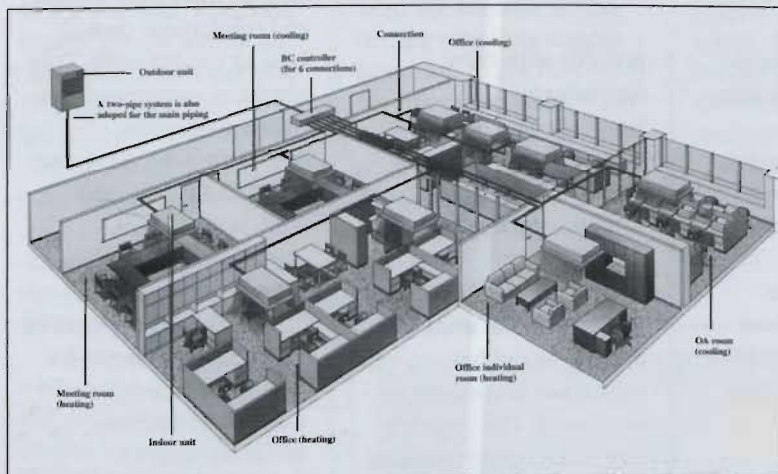
AGENTS FOR



MITSUBISHI ELECTRIC

Air Conditioning Systems

MITSUBISHI ELECTRIC EUROPE



CITY MULTI

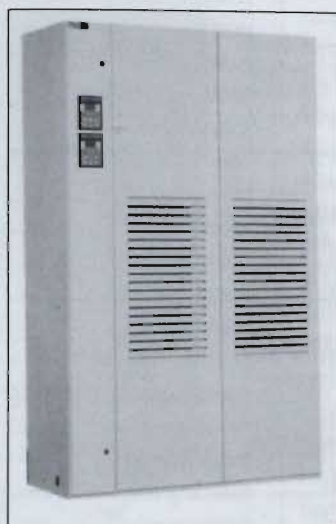
VRV Systems R2 & Y Series



K I L M A T E C H N I K



Air Cooled liquid chiller



Computer Room
Close Control Air
Conditioning
Equipment

Unit No 4, Long Mile Business Park, Long Mile Road, Dublin 12.

Tel: 01 - 456 4233; Fax: 01 - 456 4236



Mitsubishi Electric's QC2 concept stands for quiet, quality, compact, comfort. Designed for extra-quiet operation and boasting compact dimensions, the full line-up includes compact ceiling cassettes; ceiling cassettes; compact wall-mounted units; ceiling suspended units; floor-standing models; and ceiling concealed units.

Thanks to their ultra-slim and compact dimensions, Mitsubishi Electric air conditioners go virtually unnoticed in any application. As an example, the panel width of the compact ceiling cassette model is only 760mm. Furthering the aesthetics of any interior is the new compact ceiling suspended model which features a curved design.

For installers it is also comforting to know that because they are slim, lightweight, and compact, they are far easier and less time-consuming to install. Maintenance requirements have also been eased thanks to a long list of convenient features such as the long-life filter which does not require cleaning for up to 2500 hours of operation.

Mitsubishi Electric's air conditioners also incorporate the latest in noise reduction technology. For example, the new ceiling-suspended model features a redesigned vent shape and thinner fan to provide whisper-quiet operation.

For greater versatility, the multi-split system models

feature a multi-split design which allows several indoor units (of same or different capacities) to be connected to a single outdoor unit. By reducing the number of outdoor units necessary, this system helps to improve exterior aesthetics and lets you install additional indoor units at any time more economically. What's more, MXZ series models are equipped with the energy-saving inverter control, which controls compressor performance depending on the heat load of the room. This helps to eliminate wide temperature fluctuations for more comfortable and economical operation.

Contact: Mike Sheehan/
Paul Sexton, Mitsubishi
Electric.
Tel: 01 - 450 5007.
Freephone: 1800 333 600

York ACR 'Total Concept'

York International has designed and manufactured air conditioning and heating equipment for 125 years, commencing in 1874 when the company was first established and growing to a point where it now has 30 factories and more than 700 sales outlets in 120 countries throughout the world.

One of those dedicated companies — York ACR Ltd — is located in Ireland where it enjoys a growing reputation as one of the leading suppliers to industry and commercial situations requiring air conditioning and refrigeration solutions.

"Providing solutions that stretch the boundaries of technology" ... that is the mission statement of York ACR in Ireland. There is no denying that it is an idealist vision yet, time and

again, that objective is realised on behalf of clients. This is achieved by the wealth of experience and knowledge represented by the company's staff, and the innovative and diverse product portfolio which is constantly undergoing a process of perpetual evolution.

New technology is constantly being brought to bear on the product portfolio. For instance, York is the only company to provide a variable speed drive for chillers, controlling the speed of the motor and pre-rotation vanes in the compressor. If you want an analysis on the operating costs of any chiller, ie, water-cooled or air-cooled, York can provide a comprehensive energy analysis, including cost of operation.

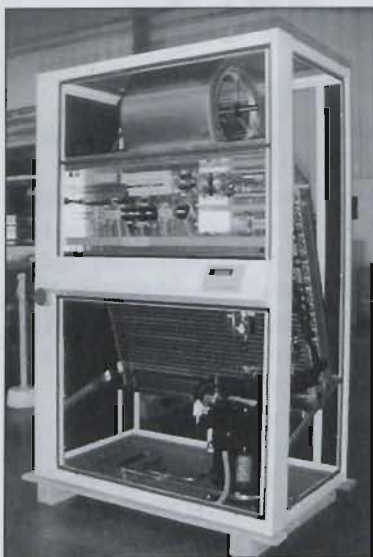
York International is the largest air conditioning and refrigeration manufacturer in the world with an annual turnover of \$3 Billion and 28,000 employees worldwide. York's philosophy is to bring this enormous strength to bear on local markets, via wholly-owned, locally-based, operations. That way all the benefits are conveyed directly to the clients/end-users without any dilution of the service along the way.

In that context Ireland is seen as a very important element of the company's trading activities. This fact was endorsed recently by the injection of substantial funds in a state-of-the-art office/warehouse/workshop complex standing on



York ACR's air handling and fan coil units are all CE approved and factory-tested before being despatched.

AIR MOVEMENT: AIR CONDITIONING AND VENTILATION



The Edpac Modular Series from York ACR comprises four module sizes with nominal capacities ranging from 10kW up to 40kW per module.
Contact: Patrick Byrne/Andy Green, York ACR. Tel: 01 - 466 0177.

approximately 6,500 sq ft and located on the innovative Citywest Business Park on the outskirts of Dublin. This commitment was further reinforced by the opening of a second branch in Cork which serves the Munster region. Uniquely, York ACR enjoys all the benefits of being part of a global operation while, at the same time, being free to operate autonomously at local level. This makes for a very flexible service. The extent and scope of application of the comprehensive portfolio is enormous.

Ventac and S&P – The Perfect Partnership

It is appropriate that Ventac Ltd is Soler & Palau's (S&P) Irish distributor. As trading partners they make the perfect combination ... both are strong on traditional values yet, at the same time, are innovative and dynamic. Over the last 25 years they have forged an extremely successful working relationship which has totally vindicated S&P's confidence in making Ventac its first export appointee back in 1973.

Today, Ventac is one of the leading market forces in the ventilation sector in Ireland. Its product portfolio is diverse and all-embracing, S&P being a very large and important element in this success story.

The S&P product range offers a wide variety of fans for all types of domestic, commercial and industrial applications. The careful design and meticulous manufacture of S&P's products are renowned and held in high regard at international level, giving these products innovative aspects of design which make an important contribution in the ventilation field.

Ease of installation for the professional is a constant consideration for S&P. This area is given consideration even in the design and development stages of the products. S&P products are renowned

for their durability, the careful selection of the materials used in the manufacture and production processes, considerably increases the working life of S&P products.

S&P's responsibility does not end with the creation of a range of esthetically-pleasing, functional, hardwearing and easy-to-install products that cover all needs. S&P has also put in place an extensive network of customer



S&P Series of in-line, cabinet-type, centrifugal fans from Ventac.

support facilities which can be availed of through Ventac.

The very latest equipment and facilities are available to the engineers and technicians in the R&D department in their quest to investigate, design, improve and test S&P products in extreme conditions prior to their launch on the market.

The laboratory, which is certified in accordance with EN 45001-89 standard by ENAC (National Accreditation Institute), is



EXCELLENCE AT WORK
Available from your normal distributor



**SAVES HANDS
TIME AND MONEY**

◆ Non-Acid: For Water, Gas & Heating

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the new arrivals



Backed by 100 years of air-conditioning experience, Hall Distribution now introduces a new range of split-systems which has just been stocked in Dublin for the Irish market.

These products bring you the benefit of Hall and McQuay's combined experience, emphasising quality, reliability and value for money, supported by a first class service.

All products in our range have been designed to give you a clean and controllable environment.

With a choice of cassettes, wall or ceiling mounted units, heating & cooling facilities, you'll find that air-conditioning has become an affordable addition to any retail, business and domestic locations

Invest in a better environment.

Can you afford not to?

Hall Distribution

(A Division of J&E Hall Limited)

Unit 8 Ashbourne Industrial Park
Ashbourne Industrial Estate
Ashbourne Co Meath

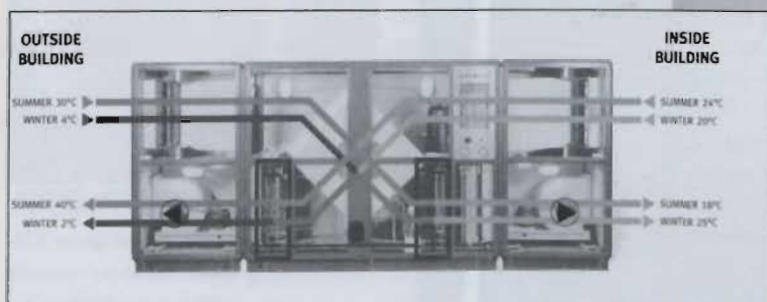
For further information call **Caroline Fagan**
tel Dublin 8352530 or fax Dublin 8352535
mobile 087 - 255 5078

AIR MOVEMENT: AIR CONDITIONING AND VENTILATION

equipped with six aerodynamic test tunnels which comply with the AMCA and BS standards; a 100 m² (1100 ft²) semi-anechoic chamber which allows for the measurement of sound levels of fans and ventilators over the whole

of their working curve; plus environmental simulation chambers. Furthermore, S&P has invested in a specific laboratory for motors and electronic components.

Contact: Ciaran King, Ventac. Tel: 01 - 667 1077.



Dantherm ... the experts in ventilation and heat recovery. For details on DanX contact Ross Air Conditioning

Dantherm DanX from Ross

Ross Air Conditioning Ltd and Dantherm are names synonymous with heat recovery for some 10 years in Ireland. Dantherm's heat recovery and air conditioning equipment has been designed to suit offices, hotels, shopping centres, airports, banks, swimming pools, museums and associated industry.

The DanX can be combined in different ways to meet the needs of every situation, whether it is for industrial, commercial, comfort or swimming pool applications.

Common to all units are the high-efficiency heat exchangers in anodised and epoxy-coated aluminium, designed to be resistant to aggressive air streams. DanX, available in multiple sizes with capacities up to 64,000 mcu/hr, can meet almost every air conditioning application.

The heat exchanger, depending on the humidity and temperature of outgoing air, recovers up to 75% of the heat present in the exhaust air and transfers it to the incoming fresh air.

One of the big advantages of the DanX units is that they can be supplied with in-built, factory-tested heat pump/cooling systems, thus giving extra

energy savings, the possibility of cooling in summer periods, and high-efficiency, low-cost heating in winter.

Depending on working conditions and client requirements, systems can be manufactured with one or two compressors to suit cooling and heat recovery requirements. In practice, this means that a refrigerant circuit with a cooling coil is built into the exhaust air and takes up the remaining heat content of the exhaust air which is then, via a compressor system, delivered at high temperature to a condenser coil in the supply air stream.

In addition, the electric power used for the operation of the compressor is converted into sensible heat and released to the inlet airstream which, in this way, is heated to approximately the same temperature as the exhaust air.

Conversely, the unit can also operate in reverse cycle, cooling the incoming air in hot weather. This greatly increases the applications for the units, and also gives greater running efficiency over the operating year.

Being a major manufacture of heat pump systems, Dantherm has designed its own BMS control system for use with the heat pump units. This system automatically takes control of all the functions of the refrigeration and ventilation system, in both heating and cooling modes.

The units are normally delivered with all internal wiring, sensors and safety devices pre-fitted and wired to an internally-mounted connection box. With escalating on-site labour costs, Dantherm can provide the necessary inter-connecting, quick-release couplings/wiring connections between the panel and internally-mounted controls with all units.

With this system it is possible to establish the electrical connections between the control panel and the units in a few minutes, thereby saving on site-labour and materials.

Ross Air Conditioning are proud to represent Dantherm and look forward to further developments from its R&D Department to keep them at the forefront of heat pump technology.

Contact: Gerry Ross, Ross Air COnditioning. Tel: 01 - 842 5522.

Creda Mobile AC

The Creda Coldair mobile air conditioner unit has been designed to provide all the benefits of built-in systems at a fraction of the price. Compact and easy to move, the stylish Creda Coldair unit gives all the comfort required, where and when required, with the added bonus of dehumidification at no extra cost. Even on the hottest of days, the Creda Coldair cools the temperature effortlessly and quietly, making it the perfect choice for small to medium-sized situations.

For larger floor areas there is the Creda Coldair Tandem. The Coldair's air-conditioning capacity is boosted by the

addition of a neat detachable heat exchanger which can be suspended in its own basket from an outside wall for maximum portability.

Like the Creda Coldair, the Tandem also dehumidifies and needs no special installation. Creda Coldair is ideal for homes or small reception areas such as doctors or dentists waiting rooms. The impressive capacity of the Creda Coldair Tandem means that commercial premises such as small businesses, shops and nurseries can benefit from stand-alone air conditioning.

Contact: Des Bradley, EDI. Tel: 01 - 626 4366.



Creda Coldair mobile air conditioning unit from EDI.

Irish Fan Distributors ... Your Efficient Partner for Ventilation

Today, more than ever, the quality of the air in buildings — be it in homes, offices, restaurants, pubs, factories or warehouses — is the subject of great debate. It is now generally acknowledged that poor quality air affects people's health and even work performance. Indeed, such is the concern within the community at large that stringent controls in the form of Statutory Regulations are now being enforced to ensure adherence to minimum air quality standards.

"Nonetheless", says Billy Wright, Managing Director of Irish Fan Distributors, "the whole issue of ventilation in relation to the building services sector is still somewhat neglected. For too long it has been dismissed as insignificant and unimportant and there is now an entrenched mind-set of indifference which needs to be overcome.

"It is against this background that Irish Fan Distributors was established. Our objective from the outset was to create an environment

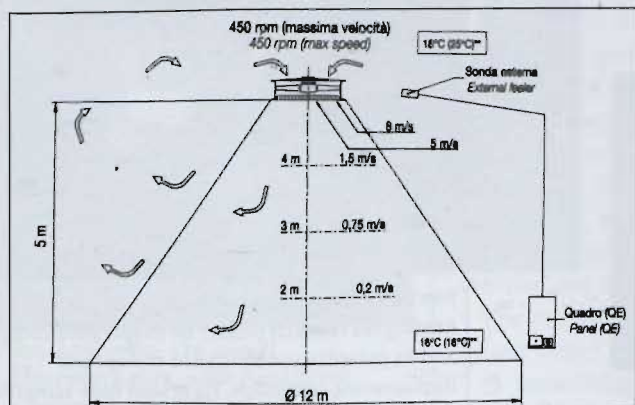
whereby ventilation was given its due standing by all sectors of the building services professions.

"To this end we provide quality, brand-leading products, complemented by structured management control mechanisms which ensure thorough analysis before the project is undertaken, and full support during installation and after the project has been completed.

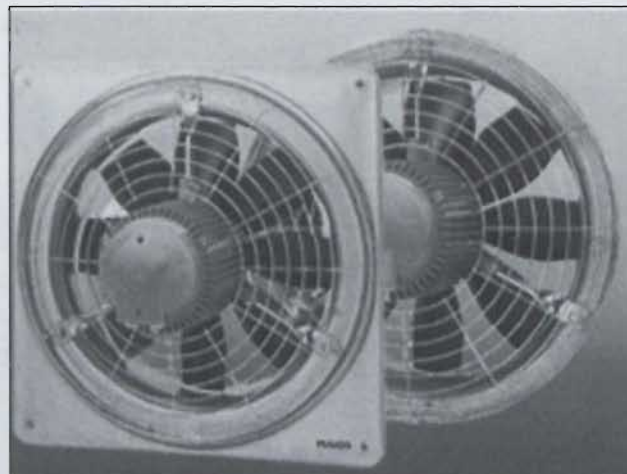
"Where appropriate, we will work closely with the specifier, consultant, contractor and/or client to analyse the requirement for each particular situation and devise a solution that is uncompromising on performance.

"Having done so we can provide the entire product requirement, from the main body of key items through to all related ductwork, components and accessories.

"Our principal product supply partners are Maico, the renowned German manufacturer of fans and ventilation systems and Dynair, its sister-company, who specialise in industrial ventilation. We have the



Working example of Dynair Destratification showing velocities and distribution



Maico high-performance axial and wall fans, Model Series DZQ/DZS.

added advantage of being able to tap into the vast reserves of technical support systems and research data that they have at their disposal.

A further aid is a specially-devised PC-based, fan selection programme which is available on request.

"Together, we bring this partnership of experience, technical know-how and full understanding of the fundamentals of ventilation — and of the statutory requirements governing same — to bear on each particular project. When it comes to air movement and air quality, Irish Fan Distributors will deliver the most energy-efficient, cost-effective and environment-friendly solution".

Brief details of the Maico portfolio are as follows:-

Domestic Ventilation — Fans for small rooms AWB 100, 120; Wall-mounted fans AWB 150; Duct-mounted fans; Surface-mounted centrifugal fans ERA 11.

Domestic air extraction systems according to DIN 18017, part 3 — Surface-mounted centrifugal fans ER; Recessed-mounted fans ER-U; Fire protection ceiling barrier; Shaft covers.

Domestic room ventilation systems — With heat recovery; Heat pump; Without heat recovery; Air supply elements; Fresh air devices.

Fans for domestic and commercial applications — Window and wall fans EV; Wall-mounted fans ET, EN.

Industrial ventilation systems — Channel fans EPK, explosion-proof; Accessories for channel fans; Duct fans ERM, explosion-proof; Duct fans ERR, ESR; Accessories for duct fans.

Industrial Fans — Axial duct fans EZR, DZR, DZR explosion-proof; Axial wall fans EZQ, EZS, EZF, explosion-proof; Greenhouse and stable ventilation fans; Roof fans ERD, ETU, EZD; Wall and ceiling fans, fresh air heater, fan heater DHL.

Accessories for fans — Filters; Louvre shutters, internal and external grilles; Time lag relay, follow-up switch; Speed controllers, step switches; Automatic control devices.

Contact: Billy Wright, Irish Fan Distributors. Tel: 051 - 852404.

C I B S E N E W S



Annual Dinner

The CIBSE annual dinner – which is for members, their guests and friends – will take place at the Fitzwilliam Hall, The Burlington Hotel, Dublin on 12 March. Dress for the occasion will be informal and as was common in previous years, members are invited to book individual tables to entertain their guests.

The cost per person is £40. Cheques should be made payable to the CIBSE Social Account and be sent to Joe Lawlor, CJ Ryder Lawlor Ltd, 86 Amien Street, Dublin 1. Printed invitations are being prepared and will be forwarded on receipt of a cheque for the appropriate amount.

As tables can accommodate 10 or 12 persons, it will be necessary for fewer than 10 to share a table.

Sprinkler Design Update



Jim Curley and Frank Robinson at the Engineers' Club prior to the "Sprinkler Design Update" technical evening which featured a very informative and interesting address by Frank

Celebrity Lunch



Pictured at the celebrity lunch immediately prior to Christmas was Michael McDonagh; Herbert Taylor; Peter O'Dowd; Sean Ascough; Jim Curley; Bill Noone; Richard John, Chief Executive & Secretary, CIBSE, London; Margaret Dolan; Ben Costello; Albert Byrne; and Francis McNulty. This year the lunch was used to congratulate and formally welcome the new Chief Executive to his post, and to Dublin, for the first time

Research Sponsorship



Ben Costello was presented with a cheque towards funding his research project on evaporative cooling and its potential use for chilled ceilings and displacement ventilation. He is seen here accepting the cheque from Jim Curley, Chairman, CIBSE. Also in the picture is Sean Ascough, Vice-Chairman (left).

Presentation to Minister



Pictured at the presentation of the CIBSE "100 years of Building Services" Centenary Yearbook to Mary O'Rourke, Minister for Public Enterprise were Herbert Taylor; Jim Curley; Mary O'Rourke; Oliver Reddy; and Sean Ascough

'Supplier of the Year' and 'Trade Person of the Year'

The Cork Plumbing and Heating Contractors Section CIF has recently named the latest recipients of its annual Supplier of the Year and Trade Person of the Year awards.

The Supplier of the Year award, which is in its eighth year, went to O'Connell Heatmerchants of Turners Cross, Cork. In its fourth year, the Trade Person of the Year award was presented, for the first time, to Tadgh Forde of O'Connell Heatmerchants.

Tom O'Brien, Secretary, Cork Plumbing and Heating Section, believes the awards have been an effective tool in enhancing industry links. "The awards were initiated by the Cork Plumbing and Heating Contractors of the CIF to reward the suppliers who looked after them, and have helped create a greater awareness of services from suppliers. It has been a great success, and it certainly makes suppliers more



Roy McCarthy, O'Connell Heatmerchants, with Paul Terry, Chairman, Cork Plumbing and Heating Section CIF



Owen O'Brien, Managing Director, O'Brien Marketing pictured with Paul Terry, Chairman, Cork Plumbing and Heating Section CIF; Lord Mayor of Cork, Cllr Joe O'Flynn; Minister for Education and Science, Michael Martin TD; Tom O'Brien, CIF; Joe O'Brien, Director, CIF; and Garry Tobin, Chairman, Alliance of Heating and Plumbing Contractors.

aware of their customers, our members".

Contractors were polled to establish the winner of each award. In assessing the candidates for the suppliers' award, they were asked to take into account the usual criteria of:

- speed and knowledge of counter staff;
- speed and reliability of delivery service;
- credit facilities;
- price of materials;
- level of stock;
- back-up service.

To reflect the changing needs of contractors, a new criterion was added this year, namely "Showroom Presentation".

The criteria for the trade persons award were:-

- knowledge of product;
- friendliness and courtesy;

- dependability and reliability;
- overall approach.

The awards were presented at the recent annual dinner dance of the Cork Plumbing and Heating Section, CIF and Alliance of Heating and Plumbing Contractors. This was attended by a capacity crowd, including the Lord Mayor of Cork, Cllr Joe O'Flynn; Minister for Education and Science, Michael Martin TD; the Chairman of the Alliance of Heating and Plumbing Contractors, Garry Tobin; the Chairman of the Cork Plumbing and Heating Section CIF, Paul Terry; Joe O'Brien, Director, CIF; and Tom O'Brien, CIF. Also present was Owen O'Brien, Managing Director of O'Brien Marketing/Acorn, who once again sponsored the event.

Certification of AC, Ventilation and Refrigeration Installations

The Safety Health & Welfare at Work (General Applications) 1993 states: "Every new electrical installation shall, after completion, be inspected and tested by a competent person in an approved manner and a certificate of test shall be completed verifying that the relevant requirements of these regulations have been complied with". This is a relatively straightforward procedure on small sites.

However, RECI has been concerned for some time because on large projects there are often more than one electrical contractor – and there are also many services such as air conditioning/ventilation; refrigeration;

intruder alarms; access control; fire detection and alarm; fire suppression; gas detection; lift installation, special plant installations; hand dryers and similar devices; decorative and specialist lighting; and voice/data networks/active systems. All of these have wiring which should comply with the National Rules for Electrical Installations and should be tested and certified to comply with the Safety Health and Welfare at Work regulations.

Frequently, only one ETCI/RECI completion certificate is issued for the whole project. The electrical contractor who has installed the main distribution board issues this certificate to the ESB for connection of supply. The ESB will only accept one completion certificate for the whole project and therefore the contractors responsible for the electrical wiring in the various service sub-system contracts often do not complete an ETCI certificate for their electrical installation, which should be done to comply with statutory regulations.

A RECI sub-committee has been working on this problem for some time and is nearing finalisation. The proposal is that consulting engineers, architects or the project managers will include in their specifications a clause stating that all electrical installations (including sub-system electrical installations) must be tested and certified with an ETCI completion certificate. All these completion certificates will be put into the project safety file and, together, they will form the certification for the total electrical installation of the project. A special form will also be made available for small projects where there is no consulting engineer or architect involved.

It is hoped that the details of this scheme will be finalised in the near future and an awareness campaign will be undertaken. The Health & Safety Authority is represented on the RECI sub-committee and will be supporting the scheme in every way they can.

New Office and Training Centre

Since its formation RECI has been renting accommodation from the ESB, Parnell Avenue, Harolds Cross. Recently an office building in the KCR Industrial Estate was purchased. After some modification and refurbishment RECI staff moved to the new premises just before Christmas. The office accommodation is on the first floor and the ground floor has been fitted

out as a training centre. RECI holds training courses on various aspects of the wiring rules such as verification and certification of electrical

installations, earthing and bonding, agricultural installations, cables and domestic installations. A new course will shortly be available on the recent amendments to the Wiring Rules. There is special equipment installed in the training centre for practical testing of electrical installations which forms part of the very popular verification and certification training course.

Photo shows Exterior view of RECI's new corporate headquarters and training centre
Contact: David McGloughlin, General Manager, RECI. Tel: 01 - 492 9966; Fax: 01 - 492 9983; Email: reci@indigo.ie



New Board Appointment

Enda Ryder, who was one of the founding directors of RECI and who has played an enormous part in its development since 1992, recently retired from the Board. Mr Ryder's exceptional knowledge of electrical contracting in Ireland and his long association with the Electrical Contractors Association, the CIE, FAS and other bodies has made a very significant contribution to the research, formation, development of rules and procedures and operations of RECI.

In particular during his years as Chairman between 1995 and 1998, Mr Ryder devoted a great deal of time and energy to developing and improving the organisation which he believes is making a very important contribution to achieving higher standards in the industry and better protection to the general public.

Ivan Hammond, Managing Director of Breen Electrical has been nominated by the ECA to fill the vacancy created by Mr Ryder's retirement. Mr Hammond, an electrical engineer, has been involved in electrical contracting throughout his career. He has a very keen interest in making sure that the regulation of the electrical contracting industry in Ireland is not weakened in any way, and that it compares favourably with other European countries.

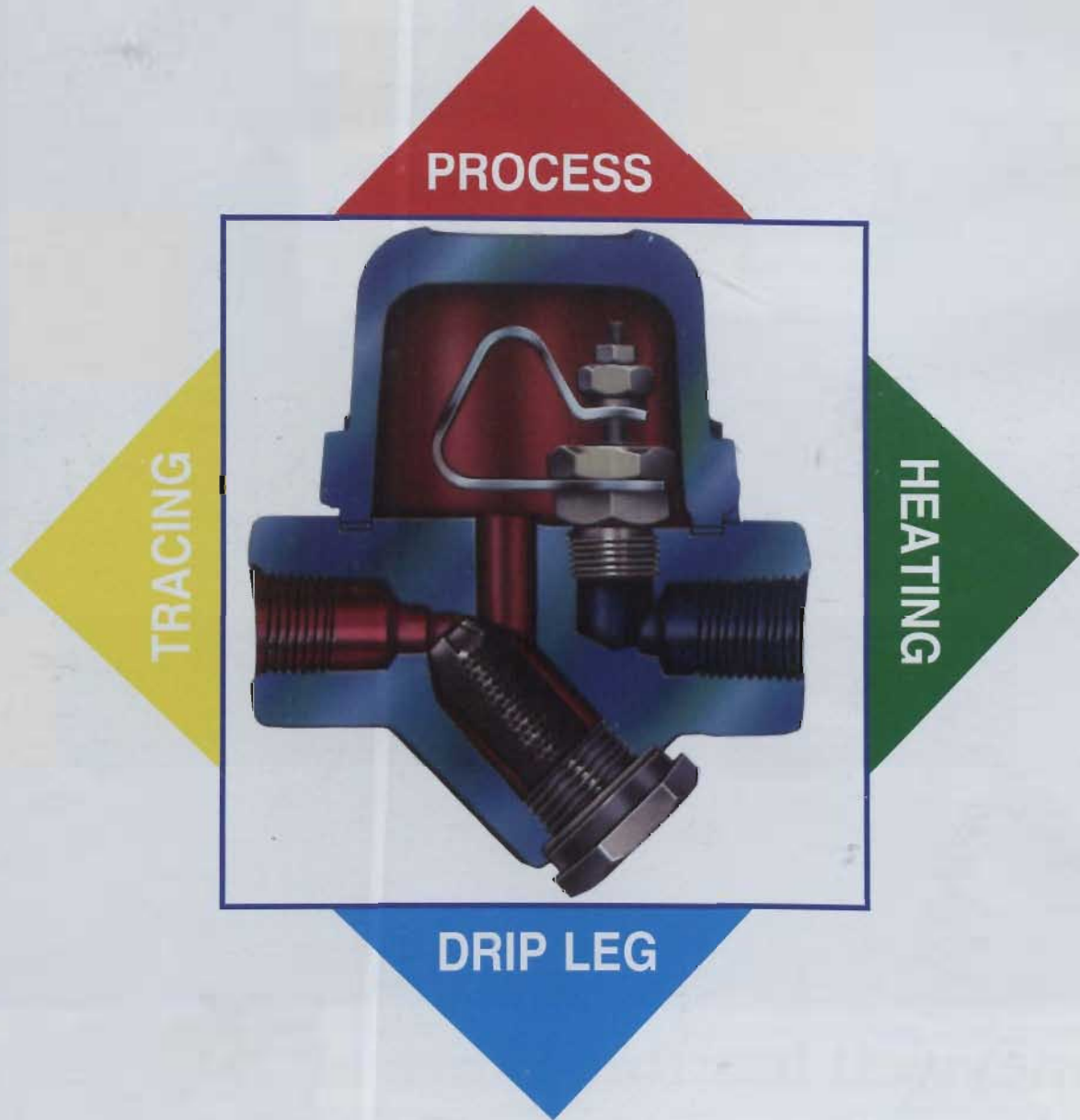
Photo shows RECI Vice-Chairman Frank O'Sullivan with retiring Director Enda Ryder and RECI Chairman Michael Moran





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