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H & V News

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IRLAND'S BUILDING SERVICES MAGAZINE

H & V News

Published by ARROW@DIT, 1982

JANUARY 1982

H & V News

- Energy Conscious Control Systems
- Gaelwood 40 — The Inside Story
- DL's Energy Report
- Filters, Fans & Air Heaters
- Plumbing & Equipment
- Coldstores

Published by ARROW@DIT, 1982
Ideal Britannia boiler with stoker (hopper model)

Dimension O may be reduced depending on boiler length

Dimension C may be reduced depending on boiler length

RING MATTHEWS
RE: IDEAL STANDARD
SOLID FUEL BOILERS
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The theme of our cover this month is the conversion or the installation of new solid fuel boilers in industrial, commercial and government sponsored projects. The change over to solid fuel has been very gradual outside the domestic sector and a lead has to be given to the industry to ensure that our dependence on imported oil is drastically reduced. Such a project is the new Beaumont Hospital in Dublin nearing completion and our cover shows the boilerhouse at the hospital. Our thanks to the Jones Group for permission to use this picture.

On the subject of thanks, our thanks also go to Finheat Ltd. who provided our cover last month on the subject of pressure vessels and storage tanks, the tank was one supplied by Braithwaite Ltd.

IN THIS ISSUE

News: EMA Programme; Fibreglass Seminar; Kellys to Handle Trianco; Damper on Open Fires; IDHE Exam Results; New Hose Protection and Safety Co.; CIBS Technical Evening; Heattech Launched; IDHE Programme.

IHVN Interview: Our interview this month is with Brian Hunter, General Manager HRP Walker.

The Inside Story of the Gaelwood Forty: As promised last month we look at the winner of the Multi Solid Design Competition.

New Products: Efficient Control of Central Heating Boilers. This is the first of a series of three articles on the subject of Energy Conscious Control Systems by J G Brickenden MIDHE.

Plumbing Equipment & Supplies.

Filters, Fans and Air Heaters.

Cold Stores, Refrigerated Displays & Accessories.
KELLYS TO HANDLE TRIANCO

It has been recently announced that John Kelly Ltd. has been appointed the sole agents in Northern Ireland for the Trianco Commercial and Industrial Range of solid fuel boilers.

The T.G.C. Series of gravity-feed boilers is available in the following outputs, 300,000, 450,000, 600,000, 750,000, and 900,000 Btu/hr.

The TGC anthracite gravity-feed boiler ensures optimum heat absorption with a heat to water efficiency in excess of 80%. Of vertical tube design, the TGC requires the minimum of attention: large hopper and economical burning rates ensure that refuelling is only required once a day under normal operating conditions.

Spent fuel forms solid clinker which is removed by the ram-ejection mechanism into the large ash tray whilst the fire door remains closed, eliminating dust and fumes. The hopper is easily hand-fed, but a simple screw elevator can be employed to perform this function.

The boiler incorporates a thermostatically-controlled fan with a patented air control device for metering blast and idling air. Secondary air is provided above the bed for completion of combustion.

TGC boilers are fully clad in a heavy gauge hammerred grey stove enamelled casing and thermally-insulated with glass fibre panels. The fire-door is stoved enamelled black. To facilitate handling and installation in confined spaces, the boilers are supplied in two pieces, an upper and lower section, each section being small enough to pass through a standard 30in wide doorway. The five models have a common side elevation with increments of width according to output.

New Companies

Paularino Ltd.

Paularino Ltd. is a new company being established to manufacture complete systems for gas and fire protection equipment. The company will locate in the IDA’s Small Industries Centre at Ballybrit Industrial Estate, Galway. Most of the company’s products will be for the export market. Projected employment over a two year period is 11 people.

J.S.L. (Ireland) Ltd.

A new company, J.S.L. (Ireland) Ltd., has been established to manufacture a range of acrylic household baths for the Irish market.

The project is being promoted by two local entrepreneurs who, in discussion with the IDA’s Project Identification Unit, identified a market for these products which are at present imported.

The company has located in Unit 4 of the IDA Small Industries Centre at Mervue Industrial Estate, Galway, and is being aided under the IDA’s Small Industries Programme. Total investment in plant and machinery amounts to £55,000. IDA grant is £33,000.

Galway Project to Provide Jobs

General Monitors Ltd., which manufactures gas detection and monitoring equipment, plans to further extend its premises at the Ballybrit Industrial Estate, Galway in an expansion which will create an additional 20 jobs to bring total employment to 55 by 1983.

The company was established in Galway in 1974 and in 1975 moved to a 6,250 sq ft factory at Ballybrit. In 1976, this was extended to cater for increased production. General Monitors Ireland Ltd. markets its products throughout Europe to the chemical, and petrochemical sectors, paint manufacturers and other industries. The company expects a considerable increase in sales over the next few years, particularly as a result of the establishment recently of a sales office in the UK for the promotion of its European sales.

ESB to Install Heat Pump

A contract to supply two Daikin-manufactured Heat Pumps for installation at the new Electricity Supply Board headquarters in Cork has been awarded to air conditioning specialists Coolair Limited.

The system comprises two Daikin water-to-water reciprocating heat pump water chillers together with matching closed circuit cooling towers.

Varming Mulcahy Reilly Associates were the Consulting Engineers and Climate Engineering the Mechanical Contractors on the project.
CROWN PIPE INSULATION

The new one.

The new Crown Pipe Insulation has an outstanding advantage that only Fibreglass can provide. It has Z-lock: an interlocking, heat-conserving seal along the opening edge of thicker walls.

That's one reason why we believe it's superior to any other pipe insulation; but it's not the only reason.

Snap-on application. Smooth interior and exterior surfaces. A dense, closely-interwoven structure that's hard to tear or compress - but easy to cut and shape. Alternative wall thicknesses that make it easy to attain an economical thickness of pipe insulation. A choice of sizes that could make your 'special' a standard.

We've given Crown Pipe Insulation either traditional canvas or multi-purpose never-rot, never-age Class 'O' facing.

Even the cartons are the right size, shape and weight to encourage safety on site.

Hence the claim that Fibreglass Crown Pipe Insulation has ALL the advantages. Which, of course, you can easily prove for yourself by sending for the new Crown Pipe Insulation brochure.

Crown Pipe Insulation is a brand new product produced on brand new computer-controlled production lines. So we've been able to give it ALL the advantages.

Fibreglass Limited, 21 Merrion Square North, Dublin 2. Telephone: Dublin 767060 and 762395. A subsidiary of Pilkington Brothers PLC.
IDHE Exam Results

The following are the results of the IDHE Diploma Examination held in the College of Technology, Bolton Street, last year. The examination was for Associate Membership of the Institute which has extended its examinations to cover full membership from this year onwards. The membership course covers such areas as air conditioning and business management and must be the first such course in the country to cover the theory and application of heat pumps.

1st James Hayden; 2nd Frank Bodkin; 3rd Paul Sullivan; 4th Pat Bourke; 5th Victor Byrne; 6th Oliver Kiernan; 7th Kevin Sullivan; 8th Paul Fox; 9th Alan McNamera; 10th Declan Flannagan.

Cooker Standards

A report recently handed over to the Minister for Energy has come down very hard on the open fire. The report was issued by An Foras Forbathcha and was based on a survey carried out on 21 homes.

The survey showed that dissatisfaction with temperatures throughout the house was most prevalent in houses heated by open fires, and that this often curtailed the occupants' use of their homes.

An average improvement in efficiency of four percentage points was found in central heating systems when oil-fired boilers were cleaned and serviced with improvements of up to 10% achieved in some cases.

Three ranges of efficiencies for the main heating systems studied were identified: Central heating oil or gas fired — 60-70%; solid fuel stove — 45-50%; open fire 20-25%.

Recommending that open fires should not be installed the report which was completed last June says: "The current fuel situation suggests that efficient solid fuel combustion units are the most appropriate alternative." The report says that if solid fuel for domestic heating is to be adopted and to prove satisfactory in this country steps should be taken at a national level. These should include the introduction of a system for the testing and approval of all combustion units being marketed for domestic heating appliances as well as measures to ensure the continued availability of the necessary quantity and quality of fuels. There would need to be national standard specifications for the various grades of coal required.

Bob Hutton Still Talking Warm Air

Congratulations to Bob Hutton who celebrates his 17th year in the heating business all of that time having been spent with Powrmatic the company who are best known for their air heaters but who also manufacture and distribute many other heating products, HVN takes this opportunity to wish Bob every success for the future, and hope that the next 17 years will be as successful for Bob and Powrmatic.

GET UP AND GO!

The highly successful Heathair exhibition run recently in Belfast required a lot of hard work, as much on the part of the exhibitors as by the organisers. Miss Sherie Duplock, marketing assistant at Satchwell Control Systems Limited in Slough, has masterminded, transported, erected, attended and then taken down her company's exhibition stand at three different venues. She is seen here with the estate car she loaded up and drove across to Belfast, Sherie, who is twenty-four, has been with the Satchwell organisation for just under a year. She is currently sitting the examination for the Diploma of the Institute of Marketing.
New Hose Protection and Safety Company

A new joint company has been formed by BSS (Ireland) Ltd., and H & H Equipment Ltd., Cork, to distribute industrial, chemical, rubber and hydraulic hose, and industrial protection and safety equipment. The company named BSS Hose & Safety Services Ltd., commenced operation from 46 Marrowbone Lane, Dublin 8 (Tel: 782155) on January 4th. It is under the joint direction of Mr. Rex Ottman, M.D. H & H Equipment Ltd., Cork, who are in the industrial hose distribution business for some nine years in Cork, and Brendan Stack of BSSD (Ireland) Ltd., who are distributing safety and protection equipment in Ireland for over three years. The new company holds a comprehensive stock at its new premises, and will be in a position to offer a one day service for flexible connections and hoses with a large variety of swaged-on end connections. The company will be sole Irish distributors for Goodyear Hose Products, Danfoss Hydraulic Motors, Fondermann of Longford, the only Irish manufactured industrial protection equipment and distributors in Dublin for “Tuf” Irish manufactured safety footwear.

Crannog Enterprises

Crannog Enterprises Ltd. has reached agreement with the IDA to set up a manufacturing operation in a 4,000 sq ft premises at Ballybane, Galway to manufacture cultured marble products which will include vanity basins, shower trays, counter tops, wall panels, bath surrounds and coffee tables. These will initially be sold on the home market and the company plans to develop export markets as production increases. The products will replace similar goods at present being imported.

The promoter, Mr. Des O’Doherty, is a qualified civil and industrial engineer and will be involved full time in the running of the business. His wife, Therese, will also be playing an active part in the running of the company.

The company, which hopes to employ 20 persons has been assisted under the IDA’s Small Industries Programme.

Don’t Drain Down!

Jetfreezer pipe freezing equipment can save you time and money when undertaking pipework repairs. With jetfreezer for example you need not drain the system when you need to change a valve or extend the pipework. Simply freeze the pipe. Jetfreezer forms a temporary ice plug which isolates the section and holds back the water. You undertake the job without draining down.

Jetfreezer can freeze pipes of up to 4” diameter. The ice plug will not damage the pipe. Fast, clean and simple.

Jetfreezer is available through branches of P J Matthews & Co Ltd in Dublin, Limerick and Waterford.

For further information, please fill in and return the coupon.

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IHVN, January 1982 5
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Heatech
Launched

A new Irish manufacturing and distributing company, Heatech Ltd, made its debut at a launching reception staged before Christmas in the Gresham Hotel, at which the Minister Mr. Fergus O’Brien, TD, Minister for State at the Departments of the Taoiseach and Defence was the guest of honour.

Heatech Ltd, an Irish owned firm was established recently by its joint managing directors, Jarlath Downes and John Harrington, the same design and engineering team who created the widely successful Heatilator Fire-flo.

This new concern who have premises and offices at 15-16 Old Kilmainham, Dublin 8 have already experienced much favourable reaction to the two products which they are currently marketing, namely, Whisperfire, a heat amplifier for any open fire and Autostop, an automatic locking barrier for car security.

The Whisperfire heat amplifier captures the heat that is usually lost up the chimney as well as giving up to three times the heat into a room. It can be operated with all open fires including back-boiler fires. This heat amplifier is technically more advanced than the original fan assisted fire grate as it incorporates automatic operation and also enables one to use one’s existing fire grate and fret.

Speaking at the reception to introduce Heatech to industry, semi-state bodies plus the press Jarlath Downes, Managing Director, Heatech Ltd, commented “Heatech have just appointed R & R Home Insulations of Lisburn as sole distributor for Northern Ireland which has already developed as a substantial market, and B & D Commercial Sales of Chester Lancs as sold distributor for Northern England & Wales. We confidently predict that in our first full season with Whisperfire, Heatech will achieve sales of 1,500 units. We also provide a full after sales service guarantee with our products”.

CORK/DUBLIN PIPELINE GETS GOVERNMENT APPROVAL

The Government has finally officially informed the Board of Bord Gais Eireann at a meeting in the Department of Industry and Energy that the Government had approved the laying of the Cork/Dublin gas pipeline.

At the meeting Mr. Collins the Minister of State, reviewed progress on the major projects of the Cork/Dublin Gas Pipeline and the Link Main from City Gate to City Centre in all their aspects.

While expressing satisfaction with the degree of progress to date Mr. Collins impressed on the Board his concern that these projects be carried out within the planned timetable and within the budgeted cost.

He called on the Board to ensure that the fullest management and engineering expertise be committed to attaining these ends. He underlined the economic value of these projects to the National Economy as well as to the City of Dublin and warned the Board against any cost overruns or delays. It is understood that such meetings will be a recurring feature for the duration of these projects.

Mr. Collins also announced that he had arranged that a consultancy study would be carried out by the City of Waterford Gas Company to assess the Company’s potential to take natural gas from the Kinsale Field. A supply to Waterford, would require a branch pipeline from the Cork/Dublin transmission main.

CIBS Technical Evening

The first of this seasons CIBS Technical Evenings was held last October in Dublin.

Messrs Arthur Kavanagh (I.D.A.), Michael Greene and Tony O’Neill (C.I.F.), Fred Browne (Robinson Keefe & Devane) and John Balance each made a short presentation

Mr. Kavanagh mentioned that the team leader on I.D.A. projects was normally the architect but that sometimes either a structural or electrical engineer co-ordinated the work of their design teams. He considered that very few service engineers did project management and was critical of the traditional system of P.C. sums covering mechanical contracts, suggesting that a Bill of Quantities might help reduce costs for prospective clients.

Messrs Greene & O’Neill concentrated on large sites and outlined how best to avoid contractual and industrial relations difficulties. They stressed care should be taken in satisfying the short term needs of a client on a 2/3 year contract should not cause problems for C.I.F. and the country generally.

Mr. Fred Browne developed the role of the architect from the early days of his practice should not cause problems for the CIBS and the country generally.

Mr. John Balance felt that a project manager was needed when a task reached proportions that normal management could not handle. He considered that complex issues required what he termed lateral co-ordination and that the architect was not the man to deal with such cases.

The evening was sponsored by Finheat and 72 attended.

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Boost to IDHE

A recent letter to members of the Institute of Domestic Heating Engineers, Irish Branch, from the committee outlined policy for the next year and matters such as the list of contractors to be submitted to the Gas Co., education, Cork Branch, and more autonomy for the branch will be the main topics for the coming year. The mailing list is also being revised and members are advised to return the forms as requested in the letter as soon as possible.

Mr. David Mitchell, Parliamentary Under Secretary with Responsibility for the Department of the Environment (N.I.), showed great interest in the Rayburn Coalglo when he visited the recent Heatfair Exhibition in Belfast. This revolutionary room heater, which burns the cheaper bituminous coal smokelessly, was presented by Mr. Bernard Bateman, (left) Sales Director of YHS/PDM Northern Region and Mr. Duncan Davidson (right) Representative of OBC. Mr. Mitchell felt that Coalglo has a tremendous potential as an alternative to smokeless fuels, bearing in mind the cost of coal compared to that of smokeless fuels. He mentioned specifically that Coalglo would be particularly useful in conjunction with local authority schemes.

Thorn EMI Heating

As from November 1981 Thorn Heating Limited will be known as Thorn EMI Heating Limited. This will have no effect on the companies policies, products or personnel. However, they will be presenting themselves in a different graphic image to you in exhibitions, advertising, literature, stationery and other material. The new identity will be phased in as quickly as possible.

T. Bourke & Co. on

the Move

T. Bourke & Co. Ltd., mechanical service contractors, formally of Ardee Road, Rathmines, Dublin 6, have moved to new premises at T22 Stillorgan Industrial Park, Stillorgan, Co. Dublin. Tel: 952721/952178.

SCANGLO INT.

APPOINTMENTS

Mr. S. Hanratty has been appointed managing director of Scanglo International, a member of the Myson Group. Mr. J. Conellan has been appointed works manager of Scanglo.

FOROUGHCOMING IDHE EVENTS

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<th>Date</th>
<th>Event Description</th>
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<tr>
<td>Tuesday, 26 Jan</td>
<td>Natural Gas and the Domestic Heating Contractor</td>
<td>22 Clyde Road</td>
<td>Jim Owens Dubin Gas Co.</td>
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<td>7.30 p.m.</td>
<td>Work Visit to Veha Limited</td>
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<td>V. Madigan Copper Craft</td>
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<td>February</td>
<td>Evening visit to Thermal House Cooker Installation Lecture</td>
<td>12 Berkeley St., Dublin 1</td>
<td>G. Griffin Oil Fired Services</td>
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<td>Date to be Fixed</td>
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<td>Wednesday, 10th March</td>
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<td>Wednesday, 14th April</td>
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<td>Mid-May</td>
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<tr>
<td>Date to be Fixed</td>
<td>Annual General Meeting</td>
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<td>Thursday, 23rd September</td>
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<td>22 Clyde Road, Dublin</td>
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Building Services News, Vol. 21, Iss. 1 [1982], Art. 1

DOI: 10.21427/D7V99G
**UK Fire Safety & Security Conference**

The personal hardships encountered by a kidnapped industrialist in relation to the measures that can be taken by other potential kidnap victims to minimise their vulnerability; an analysis of the success — or otherwise — of ten years of the UK Fire Precautions Act as fire loss figures continue to rise; and an insight into why skin diseases could become an industrialist epidemic.

These are just three of the seminars in a programme of 32 papers, to be delivered during the conference session of the 1982 International Fire, Security and Safety Exhibition and Conference (IFSSEC '82, Olympia, London, April 19-23).

Other subjects in a wide-ranging programme covering the three areas of Fire Protection and Fire Engineering, Security, and Occupational Safety and Health, include the use and operation of closed circuit television for security surveillance; a look at why the potential of the micro-computer is not yet fully utilised by the Safety Advisor; and why the inter-action between fire sprinklers and fire venting may be 'counter productive'.

With last year's event attracting 54,850 visitors from 92 countries — over a four day period — the organisers say that IFSSEC '82 will 'easily exceed 60,000' when the event reverts to its customary five-day status.

Conference programmes, tickets and further information can be obtained from the organisers, Victor Chesterton, which will be located in their recently acquired unit at 100 Stanley Road in Dublin Industrial Estate, Glascow. The products within the Chesterton range include mechanical packings, mechanical seals, hydraulics/pneumatic seals, chemical coating products and lubrication products. From left to right, Stewart Roche, Financial Director at Walker Air Conditioning; Peter Dundand, Service Manager, Chesterton; Jim Anderson, M.D., Walker Air Conditioning; and Ron Anderson, Area Manager, Chesterton at the recent signing of the Chesterton agreement.

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**NEW**

**ROOM AIR CONDITIONER.**

Heating/Cooling

Capacities from 4,860 btu/h to 22,800 btu/h.
7 Models to choose from.

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4 Models, simple installation.

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Fibreglass Seminar

Fibreglass Ltd. recently held a Seminar at the Gresham Hotel, Dublin, when they launched the new Crown Pipe Insulation for the heating, ventilating and air conditioning market.

During the Seminar a film ‘Snap Judgement’ was shown which described the manufacture of Fibreglass Crown Pipe Insulation on the most up-to-date fibrous insulation plant in the world.

The occasion also provided a platform for consultants, specifiers and contractors to raise issues about mechanical services insulation; and also allowed a constructive discussion on the needs of this sector of the insulation industry. The new Crown pipe insulation is the first snap-on rigid glass fibre pipe insulation with a built-in heat conserving interlocking seal and has been developed by Fibreglass Limited.

The specially developed Z-lock ‘Save-it’ seal is one aspect of a completely new range of Fibreglass Crown Pipe Insulation being made at a new multi-million plant which came on stream recently in St. Helens.

The new Crown Pipe Insulation range will become progressively available in over 200 sizes covering pipe o.d.’s from 15 mm to 610 mm, with wall thickness of 19 mm to 100 mm, and suitable for copper, steel and stainless steel pipes operating at temperatures ranging from 2°C to 540°C.

The specially developed z-lock, available on wall thicknesses from 50 mm to 100 mm, ensures all-round insulation even if pipes are oversize. Normally heat would leak from the edges of butt joints on conventional pipe insulation. Fibreglass tests, using thermographic photography, show that the z-lock system closes the gap, cuts down joint wastage thereby contributing to an improved insulation performance along the pipe.

The new manufacturing process ensures that Crown Pipe Insulations has a uniform density reducing hot spots and structural weakness, and improving tear strength. The strong fibre cohesion also gives a resistance to vibration, compression and repeated impacts, and helps reduce pipeline noise. Furthermore, the uniform density aids on-site cutting and shaping.

The launch of the new pipe insulation has also enabled Fibreglass to rationalise the range of facings offered to two — and still meet all specifications. In addition to the standard canvas facing there is a Class ‘O’ finish — a laminate of white lacquered aluminium foil and Kraft paper. This facing acts as a vapour barrier, and is simple to clean.

An important aspect of the new Crown Pipe Insulation range is the packaging. To help laggers on site, a typical carton measures only 400 mm square by 1200 mm long and weighs no more than 12 kg — an easy one-man lift. At the same time the carton is re-sealable and strong enough for repeated handling between stores and site, with a large and easy-to-read label for quick identification.
IHVN: HRP Walker was formed as a division of Walker Air Conditioning Ltd., the Carlyle air conditioning distributor, two years ago — how has it fared?

Hunter: Well, as you can imagine, we have learned a lot. As promised two years ago, we have increased our stocks and at the same time rationalised our product range, resulting in a higher sale from stock ratio. We have also been very successful in our decision to provide a regular, and more importantly, reliable country-wide service.

IHVN: What about sales?

Hunter: Two years ago we promised to move to new premises that would be more convenient for our customers and we did, in fact, open our new premises on the Dublin Industrial Estate this September. The mere fact that this expansionist move has gone ahead during a time of recession with no improvement expected before 1983/84 must say something for our success, wouldn't you think? Even so, since the formation of HRP Walker, sales have shown a steady growth and with the new premises and strengthened product offering, we are anticipating a definite upward curve in the level of trade next year.

As an aside, the trade seemed to react very favourably to the new premises at our recent opening day and since then we have seen a slight but noticeable increase in ‘over the counter’ sales.

IHVN: You mentioned a ‘strengthened product offering’ — could you elaborate on this?

Hunter: We have been analysing, since day one, all the product ranges we offer with a view to strengthening our already extensive coverage, and our most significant switch to date has been from Myson to Searle, resulting in more Searle sales in two months than for Myson in two years.

We are now able to offer the Searle range of air cooled condensers, coils, unit coolers and allied products throughout the 32 counties. The major Searle products available are the T range of compact coolers for cabinets and small cold rooms; the UCL and K ranges of standard unit coolers for medium or low temperature applications and the new low velocity coolers ideal for food preparation areas and a wide range of condensers.

DMW Copeland, another of our suppliers, have introduced a new range of COMEF open type compressors for the small commercial market, and of course, this range has been added to the other DMW condensing units we offer. Our other major lines are copper tube, Isceon refrigerant; Aspera, Danfoss and Lec compressors and condensing units; Teddington thermostats, pressure controls, and expansion valves; KMP driers; Imperial Gould servicing tools; Watsco line valves; Ranco controls; Armaflex insulation and Sabroe components.

IHVN: So have you now finished your product rationalisation programme?

Hunter: Yes and no. We are aware that we still have weaknesses in a few of our product areas, particularly in the price of our small condensing units, but this is currently being reviewed. We have also discovered recently that Teddington expansion valves do not have a very good track record in our market place. However, we are confident that this will be rectified by a new range of valves now on offer by Teddington.

IHVN: You mentioned prices. How do your prices compare with competitors?

Hunter: Generally our prices are very keen. However, due to the nature of wholesaling an extensive range or products, someone, somewhere will always come up with a cheaper price on a particular range of items, loss leaders if you like. But we are working hard in the pricing area, particularly with regard to capital equipment.

IHVN: You also mentioned that your service extended throughout the 32 counties. How does that operate?

Hunter: At the same time that HRP Walker was formed as a division of Walker Air Conditioning in Dublin, we did the same thing at our premises in Dundonald and from there we supply the same range of goods to the trade in the North. At that time we believed that there was a real need for this service locally, and, in fact, we have been proved correct to the extent that in eighteen months of trading we captured 18% of the market. We are now considering opening new premises in Belfast, more conveniently situated for our customers, to provide an even better service to industry there, and consequently increase our market share yet further.

IHVN: Who runs HRP Walker?

Hunter: I am General Manager with responsibility for its operation throughout the 32 counties, and I report direct to Jim Anderson, Walker M.D. I have also retained my position as the Director of Walker Air Conditioning (U.K.) Limited for the company’s mainstream activity in the North, the distribution of Carlyle air conditioning, refrigeration and heat pump equipment. And I am still,
Last month we promised our readers an in-depth account of the design and operation of the prizewinner at the multi-solid fuel design competition, open to all E.E.C. countries, that was recently announced. The joint winner was the Gaelwood 40 from Multifuel Heaters Ltd. which incidentally was the only working model to win a prize.

The competition was organised to encourage manufacturers, and ultimately the public, towards the use of the closed fire behind glass, instead of the inefficient and wasteful open fire. There are several such appliances that burn smokeless fuels with an acceptable efficiency but, until the advent of the competition, there has been no inset fire behind glass with the capacity to burn coal, wood, or peat. While smokeless solid fuel is a good deal cheaper than gas or oil it is still in everyone’s interest to find ways of efficiently using the lower cost fuels that are more freely available.

The competition rules called for an appliance that would fit into a fireplace opening only 16” wide by 22” high. The finished appliance, the Gaelwood 40, while fitting into this space, was shown on test (witnessed and confirmed by the I.I.R.S.) to have an average output to water of 26,940 Btu/hr burning peat briquettes over a two hour test. The average output on coal was 33,387 Btu/hr with an average efficiency of 69.2%.

There was also a substantial warm air output, this is not normally a feature of an inset stove.

Figure (1) shows how this remarkable performance was achieved. The heavy arrows show the flow of air and combustion products. Air enters the combustion chamber from the front via an ingenious air control that consists of two concentric stainless steel tubes. Note that this is above the fire, the appliance makes use of the well known down-firing system that has widely patented and is exclusive to Multifuel Heaters and their sister company.
company Gaelwood Exports. The incoming air is heated, within a stainless baffle, and deflected downwards away from the glass. This helps to keep the glass clean, overcoming one of the biggest problems of a multifuel fire behind glass.

After passing through the firebed the combustion products pass between the bars of the chrome iron shaking grate, turning upwards at the rear of the ashpit. Thus they start their upward journey to the flue from a very low level in the appliance; this enables maximum heat transfer to take place.

The flueway up from the ashpit follows the practice that was established several years ago with the design of the Conserva. One side of this flueway is bounded by the boiler, the boiler also receives radiant heat from the areas that face the fire. The rear face of the flueway transfers heat to a convection airstream (outlined in small arrows) that enters below the ashpit and exits via large channels to either side of the smoke outlet. There is a damper control which opens for direct up-firing, this is used when lighting or refuelling. Flue cleaning is quite simple, a front cover plate gives access to the rear flue and there is ample room to sweep the chimney in the normal manner.

The Gaelwood Forty is designed for low cost standardised production, one of the interesting features is that a freestanding version will be available which incorporates almost all of the same sub-assemblies as the inset (see fig. 2). Apart from a limited run of field trial units the new appliances are not expected to be in production until several months into the coming year but there are, of course, ample supplies of the company's existing range of products including the Conserva in various forms, the Gaelwood 65/90, and the Centrafire back boiler. All these products are noted for their advanced design and high efficiency, in fact the Centrafire when tested to BS 4834, gave 7.4 kW total output burning 2½lbs per hour. A well known competitor on the same test but burning 3lbs per hour could only produce 0.65 kW more! We need more appliances designed to the Gaelwood standards; one way of saving heating costs is to use cheaper fuel but another and perhaps better way is to use appliances that get more heat out of the fuel. We congratulate all concerned in Multifuel Heaters on a well merited first prize.
E.I.L. pH Meters

E.I.L., Analytical Instruments, the water analysis specialists of Kent Industrial Measurements, have introduced two new laboratory pH meters. The new instruments are mains operated with bright (LED) digital readout, featuring illuminated touch switch range selection. Model 7045 measures pH to 0.01, has a relative mV scale with 0.1 mV resolution for ion selective electrode measurements and offers an absolute mV range (0-1400 mV) for titration procedures. Temperature readout is available in conjunction with PT100 resistance thermometer and both automatic and manual temperature compensation operate over the full 0-14 pH range.

Model 7046 has the additional facility of an accurate two decade concentration scale thereby eliminating the need for calibration graphs. This extra range can be added on to a Model 7045 retrospectively by the addition of a plug-in lineariser board.

E.I.L.’s new pH meters comply with the safety recommendations for Hospital Laboratory Equipment and are supplied complete with combination pH electrode, buffer sachets, and laboratory stand with electrode holder.

Picture shows new pH meter being operated by Ms. Sue Faulkner, who recently conducted the Selective Ion Seminars in Dublin and Cork organised by Industrial Instruments Limited, the Instrument People.

Further information is available from their Dublin office at 6 Herbert Place, Dublin 2 (01) 761691 or Kilcoolehal in Cork (021) 822186.

Buffalo Hottojet

The Buffalo Hottojet takes steam from an existing supply, and cold water at a low head, delivers a high pressure, high temperature jet of water through any of the various types of nozzles supplied. It can also entrain concentrated liquid detergent through a needle valve under the appliance, and deliver the detergent mixed with the hot jet of water, to give a powerful cleaning effect.

The complete equipment comprises the Body Unit complete with Overflow Funnel and Detergent Control Assembly, 25 feet of ½" bore high pressure hot water hose for the discharge, stainless steel cleaning lance (bronze fitted) with adjustable handles, and a set of three disc nozzles.

Extra 25 ft. or 50 ft. lengths of hose, complete with connections, can be supplied if desired.

A barrel nozzle, to screw straight into the end of the hose instead of the cleaning lance can be supplied as an optional extra.

The steam consumption varies from 300 to 450 lb/hour, depending on the model and the steam pressure.

The output ranges from 300 to 500 gallons/hour, at a discharge temperature of 200°F to 150°F (95°C to 65°C):

Further information from Hendron Bros. Ltd., Tel: 376061.

Myson Square Diffusers

The Myson RCM ED square or rectangular diffuser, manufactured from anodised aluminium extrusions, is now available from...
NEW PRODUCTS

Finheat Ltd.

It is available with cores giving one, two, three or four way discharge patterns, without the use of blanking plates.

Principally for ceiling mounting, the ED can be used in free space when the throw will decrease by about 30% and the angle of the discharge will be approximately 25 to 30° from the horizontal.

Stove enamel finishes to BS colours are available and the diffuser is made with an inner sub-frame, which carries the control damper, and can be fixed to the duct outlets during the construction of the ceiling. The louvred cores are easily removable for access to controls or where frequent cleaning is necessary.

All Myson RCM products can be manufactured to individual specifications if required.

If you require any further information, please contact Finheat Ltd.

Robinair
Flushing/Washing Pumps

The Robinair Division of Kent-Moore U.K. Limited, suppliers of the well known range of refrigeration and air conditioning service equipment, recently announced an optional extra to their motorised flushing/washing pumps. These pumps were introduced primarily using refrigerant R11 to flush contaminants from refrigeration pipework for which purpose they have rapidly gained general acceptance within the industry.

Originally incorporating a strainer in the reservoir it has become evident that an improved level of filtration would be desirable. Robinair are now offering, as an option, full flow 10 micron filtration in the return line from the system to reservoir. The filter is rated for maximum pump pressure, has extra large dirt holding capacity and incorporates an internal by-pass to guard against overloading.

In addition to flushing refrigeration circuits the Robinair pumps are increasingly used for external power washing, particularly of air cooled condensers, etc. In this application detergent is normally employed rather than refrigerant. Robinair supply a highly concentrated biodegradable detergent and the pumps come complete with spraying lance and choice of nozzles. Demonstrations for either purpose will be arranged with pleasure through recognised Robinair Wholesalers.

For further information contact RSL Ltd.

Weather Compensator

The heating & ventilating division of Danfoss announce the introduction of the new ECT 602 electronic weather compensator which offers direct control of heating plant burners to vary flow temperature dependent on outdoor temperature.

The new Danfoss ECT 602 electronic weather compensator is particularly suitable for the upgrading of single boiler installations as it requires no mixing valve. This, combined with the availability of a clamp-on flow sensor, enables whole installations to be completed without the need to drain down the system for pipework changes.

ECT 602 is available with a 24 hour or 7 day clock for programmed setback of supply temperature during the night and at weekends. The clock allows a number of setback periods to be included each day.

Remote control by means of room temperature limiter ESRL makes possible minimum limiting at night and at weekends and remote control of certain ECT 602 functions. An ECT 602 regulation system also includes an outdoor temperature sensor and a supply temperature sensor.

Further information from J. J. Sampson & Son Ltd.

Eltron
Drum Heaters

Eltron (London) Limited manufactures a range of three types of drum heaters, each with a different form of built-in control system for energy saving. All three feature quick installation, adjustable diameter between 570 to 610mm (22.5 to 24 inches), clean and simple operation, and easy transfer from one drum to another. Intended for indoor use only, they are not suitable for operation outdoors, even in fine weather.

Applications include the heating, melting and thawing of solids, semi-solid and viscous materials — such as resins, greases, fats, gelatine, jelly, viscous and heavy oils, asphalt and tar.

Further details from Redbro Ltd.

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Efficient Control of Central Heating Boilers

by J. G. Brickenden M.I.D.H.E.
Energy Conservation Services Ltd.

This is the first of a series of three articles on efficient control of central heating systems. This first article looks at some possible solutions to the problem of boiler control with the follow-up articles looking at new control systems philosophy and the final article will look at the possible refinements in the interconnecting of solid fuel and automatic boiler systems.

Oil or gas fired central heating boilers are usually oversize because they are chosen to meet a "design load" which seldom occurs: usually an arbitrary allowance is also added. The design load occurs for perhaps three or four days during the coldest part of the winter. Since many houses now have improved insulation, boilers have become grossly oversized making good control imperative in order to realise savings made possible by reduced heat losses.

For much of the heating season, domestic central heating boilers are loaded to much less than 30% of their capacity. At say 20% loading the burner fires intermittently for about 30% of the time and for the rest of the time the boiler is "standing-by" at working temperature. The smallest pressure-jet burner is about 65,000 Btu/h which is now usually much larger than generally required.

If a boiler is switched on all day for heating domestic hot water in the Summer it is loaded to perhaps 6% of its capacity. At 6% capacity, the boiler can fire intermittently for 10-20% of the time (depending on how "bad" the installation is) and the rest of the time it is "standing-by" hot.

Most hot domestic central heating boilers on stand-by lose anything from 6,000 to 12,000 Btu/hr (1.75 to 3.5 Kw) to waste, some of the heat being radiated to the boiler house and the rest being drawn up the chimney by convection (chimney draught) i.e. the boiler acts like a radiator, sucking air in through its burner, heating the air and then discharging it through the chimney. Some boilers are badly insulated, or not insulated at all, thus radiating heat through the casing. The minimum insulation should be 50mm and new standards are on the way. A high chimney without draught stabiliser draws more air through the boiler than a low one with stabiliser. A combination of high chimney and badly insulated boiler could waste much more than 3.5 Kw.

(a) Minimise acidic condensation in the boiler flue ways due to short-cycle firing thus prolonging boiler life and minimising maintenance.

(b) Load as fully as possible thus reducing the duration of standby losses and improve overall fuel efficiency.

(c) Reduce space temperature and domestic hot water temperature re-

Typical Schematic Heating Layout — Ireland & U.K. Rad. valves, feed exp. omitted for clarity

Fig. 1 Typical small bore, boiler control by timeswitch, pump control by roomstat and no domestic hot water control.

Fig. 2 As above but gravity circulation to DHW cylinder — modification for pumped primary.
cover times thereby allowing later timeswitch "ON" settings.

For example some low water content domestic installations only need 40 minutes to warm up on a cold morning or 40 minutes to heat a full cylinder of hot water from cold: obviously this sort of "boiler control" brings economies. In contrast there are still installations where the boiler thermostat and an inconveniently located hard-to-set timeswitch are the only controls provided.

Solid fuel boilers need appropriate control otherwise the expected benefits do not materialise, as many people will have discovered during the last two years. The control requirements being a mixture of manual and automatic seem to conflict with oil-fired control practices. Solid fuel boilers, especially wood burners should, like oil-fired boilers, normally be operated as hot as possible/practical. In this respect Continental practice using 3 or 4-port diverting valves (shunt pumps on big boilers) emphasises the need to keep the boiler as hot as possible irrespective of variations in the heating load.

Smoke, soot or creosote deposits are obvious signs of poor combustion control and too low a combustion temperature leading to incomplete combustion. High boiler temperatures greatly improve these conditions especially with high output back-boilers, which need to have a good fire going and a hot boiler before the pump is turned on.

High output back-boiler manufacturers seem to ignore combustion requirements hence the typical very low combustion efficiencies (40%-30% and lower) and recurrence of smog problems in the Dublin area. One notable exception (Irish) can maintain much higher levels of combustion efficiency by means of a refractory environment for the fire-bed and a controlled preheated secondary air supply: this efficiency can be maintained at high or low outputs.

Thermostatic combustion air controls on some enclosed roomheaters prevent boiler temperatures rising sufficiently to induce a satisfactory gravity circulation to an indirect cylinder. Substandard coils (less than 1" or having inadequate surface) also inhibit a good circulation.

Complicated/unhandy solid fuel interlinks, disappointing back-boilers and escalating solid fuel prices have now positively demonstrated the need for effective boiler control whether they be solid fuel or automatic oil or gas-fired boilers. People have found that efficient oil-fired heating can be more economical to operate than mediocre solid fuel systems.

Manufacturers of the larger cylindrical wood straw burning boilers have begun to meet the need for positive combustion control and greatly improved combustion efficiency. Timber and straw are no longer regarded as waste materials and have a steadily increasing value. Rated outputs have not been achieved in some cases not only because of high moisture content fuel. Many of the shortcomings and operational problems of these boilers can be overcome by enlightened installation design incorporating heat stores and by expert application of appropriate control principles.

The next article in this series will consider a new control system philosophy/package in detail and a further article will discuss the possibilities for refining and controlling interconnected solid fuel/automatic boiler systems.

Some kitchen boilers, (especially gas-fired) have no insulation inside the casing and whilst this may be acceptable in very cold weather, it may grossly overheat the kitchen at other times.

These are some of the reasons why it is generally thought that central heating boilers are always inefficient for heating domestic hot water in the summertime. The people in some countries have been taught to believe this by means of nationwide advertising campaigns in favour of electricity for water heating, claiming overall efficiencies as low as 10% for oil. This figure is conceivable with a really bad system.

The solution to this problem of the underloaded and therefore inefficient heating system is technically simple. Just switch off the boiler when it has fulfilled the heating requirement for the day. In a well designed domestic system, the boiler takes less than an hour to heat the full contents of even a larger domestic hot water cylinder, and fires almost continuously whilst doing so provided also that the cylinder heat-exchanger has sufficient effective heating surface area: many indirect cylinders on the market are substandard in this respect. Under properly controlled conditions the boiler is loaded almost 100% and operates with an overall efficiency which cannot be approached by electric water heating. The possibilities for improvement have generally been totally unknown, ignored, or even suppressed by commercial interests in the United Kingdom and Ireland, and probably many other countries.

An alternative but unacceptable technical solution is to use a highly
insulated boiler fitted with automatic fully closing chimney dampers. This is accepted practice with large commercial boilers (usually steam boilers) and is extremely effective but not practical or economic for domestic boilers. A partial solution, used by some burner manufacturers, is a fully closing air damper on the burner. Because the boiler and main pipework in domestic heating installations is usually badly insulated, or not insulated at all, (and therefore wastes heat in addition to the boiler) it is better to have an arrangement which automatically switches off the boiler and the pipe circulation as soon as heat is no longer required.

A traditional method of solving this problem has been a complicated electro-mechanical arrangement of zone control where electric thermostatic controls operate motorised valves for several zones, e.g. upstairs, downstairs, and domestic hot water. This arrangement can be quite effective provided that the motorised valves are fitted with end switches, or a system of relays is used to switch the boiler and circulation off as soon as all valves are closed (heat no longer required).

The disadvantages with this method are generally:-

(1) Boiler control has not usually been incorporated.
(2) Individual thermostatic room control is not practical unless each room is a separate zone. (This would be extremely costly).
(3) The system is potentially unreliable because of the large number of electro-mechanical components and the extent of relatively complicated electric wiring.
(4) Installation, commissioning and maintenance problems due to non-availability of expert or properly trained personnel.
(5) The householder does not know whether the system is working correctly or as designed or even if it has ever worked efficiently.

This commentary would apply equally to many guest houses, institutions, small hotels and even some larger hotels. However, the factors involved are more easily described and perceived in the domestic context and may be fairly easily measured.

Another now popular approach to improvement is the use of thermostatic radiator valves together with a thermostatic valve at the domestic hot water cylinder to control the temperature of the domestic hot water. This arrangement gives good comfort control with some fuel economy but fails to ensure that the boiler is switched off when not required. Obviously there are many hours throughout the year when the boiler is switched on unnecessarily in spite of careful timeswitch settings.

There is a need for a system using thermostatic radiator valves (to provide the independent comfort efficiency in each room) combined with an arrangement to switch the boiler off when it is not required (fuel efficiency). Such energy conscious systems have been possible up to now only by using expensive complicated controls and have been difficult or impossible to retrofit when improving existing installations. Schematic diagrams of typical existing UK and Irish systems are shown in figures 1 to 10 and any suitable improved control system must be compatible with these and with current new installation techniques.

Continental practice using mixing valves has some advantages over typical UK and Irish systems, but is still wasteful (Automatic setback when using TRV's is a typical problem on the Continent where TRV's are widely used). Although standards of insulation are very much higher in the Continental European countries, the problems of boiler control are similar and the potential for improvement is equally great. Irish house builders promote higher standards of insulation but seem to be totally unaware of the disservice they are doing their future customers by failing to give them properly designed installations and carefully planned but simple energy-conscious control systems.

Wasteful systems have been acceptable in the past due to the relatively low cost of oil, but with the recent cost increases in all forms of energy, it is fundamental priority that a different approach must be taken to heating control giving improved comfort and fuel economy. Many wasteful systems are still being installed because an unenlightened market habitually demanded the cheapest installation cost.

In the context of this commentary and assuming effective secondary controls, automatic heating boilers should normally be operated as hot as possible/practical, typically 85°C for open systems and higher for closed systems in order to:-
(a) Minimise acidic condensation in the boiler flue ways due to short-cycle firing this prolonging boiler life and minimising maintenance.

(b) Load as fully as possible thus reducing the duration of standby losses and improve overall fuel efficiency.

(c) Reduce space temperature and domestic hot water temperature recovery times therby allowing later timeswitch “ON” settings.

For example some low water content domestic installations only need 30-40 minutes to warm up on a cold morning or 40 minutes to heat a full cylinder of hot water from cold: obviously this sort of “boiler control” brings economies. In contrast there are still installations where the boiler thermostat and an inconveniently located hard-to-set timeswitch are the only controls provided. Solid fuel boilers need appropriate control otherwise the expected benefits do not materialise, as many people will have discovered during the last two years. The control requirements being a mixture of manual and automatic seem to conflict with oil-fired control practices. Solid fuel boilers, especially wood burners should, like oil-fired boilers, normally be operated as hot as possible/practical. In this respect Continental practice using 3 or 4-port diverting valves (shunt pumps on big boilers) emphasises the need to keep the boiler as hot as possible irrespective of variations in the heating load.

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Manufacturers of the larger cylindrical wood/straw burning boilers have begun to meet the need for positive combustion control and greatly improved combustion efficiency. Timber and straw are no longer regarded as waste materials and have a steadily increasing value. Rated outputs have not been achieved in some cases not only because of high moisture content fuel. Many of the shortcomings and operational problems of these boilers can be overcome by enlightened installation design incorporating heat stores and by expert application of appropriate control principles.

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Would it help to talk to someone?

If you are lonely, depressed or suicidal, 'phone, visit or write to:

THE SAMARITANS

Dublin 01-778833
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- To those who may wonder how inflation effects a voluntary organisation, it may well do to consider The Samaritans.
- The above advertisement identifies The Samaritans. In 1980 the Dublin branch received 40,000 contacts, 6,000 which were new callers. The cost of the operation in 1980 was £22,000, voluntarily subscribed.
- The cost in 1976 was £13,000.

- There were 3,000 new callers that year.
- The 320 specially trained volunteers provide a caring service 24 hours a day, 365 days a year to those whose problems include Depression, Loneliness, Bankruptcy, Unemployment, Alcoholism, Marital, Sexual, Health, Drug Addiction, Bereavement, Relationships etc. etc.
- The limited and modest Publicity Budget available cannot reach all of those who could avail of the services.
- The Samaritans know that when their publicity is increased the number of callers increase correspondently.
- 25% of all those who call the Samaritans are suicidal. The service is anonymous, non-secretarian, non-judgmental and strictly confidential.
- The callers are from every walk of society, the young, the old, the rich, the poor. They may be members of our own families.
- As the stresses of society increase more people are seeking help.
- If interested please write to DON, PUBLICITY OFFICER, SAMARITANS, 66 SOUTH WILLIAM ST. DUBLIN 2.

The Samaritans would be extremely grateful if any firm would donate a small portion of their publicity to the organisation. It could be a bonus spot on radio, an occasional newspaper ad, a bus shelter site, a television slide or a financial contribution.
Join the top brass.

IRISH INSTANTOR® – Full range of over 300 Couplings for connecting copper and polythene tubes. Made in Ireland since 1934. Solid, reliable and backed by first class service. New bright and shining finish, easy to identify as the market leader. The Irish Instantor® range complies with the Irish Standard Specification for Compression fittings issued by the Institute for Industrial Research & Standards I.S. 239: 1980. We are the Top Brass. Irish Instantor® – Meigiri na hÉireann.

Sanbra Fyffe

Everything On Tap For Plumbers.
Another Tough Year for the Plumbing and Allied Sectors

The general heading of Plumbing Equipment covers a multitude of items varying from sanitaryware to pipe clips but the sales of these items normally depend on the rate at which new houses are being built. Official projections for the next year are very poor for new housing and so the trade would seem to be in for another lean time. However there is some hope in the existing house market as recent surveys have shown that 87,000 are without internal water supply, 141,000 are without internal sewerage and 185,000 are without a bathroom or a fixed shower. To remedy the situation the government has introduced grants on the following basis:
1. £200 for internal water supply. 2. £200 for sewerage facilities. 3. £600 for the provision of a bathroom or shower. These grants may very well have come at a good time for the trade but far more should be done to let the public know about them if the trade hope to get the full benefit.

P J Matthews

Plumbing and heating specialists P. J. Matthews & Co. Ltd. have recently opened a new branch at Matthews Corner, Swords Road, Santry, Dublin 9, (Tel: 373606). Here, as with their branches in Limerick and Waterford, architects and designers can have made available any item displayed in their extensive showrooms at 134-135 Lr. Baggot Street, Dublin 2, (Tel: 789055).

Their bathrooms display includes beautiful bathroom ware from Saaregumines, Selles, Cerabati and Porcelain de Paris — and to go with such luxurious suites there is a wide selection of accessories and fittings, from gold-plated taps and mirrors to wall tiles and Pier Cardin matching towels.

Royal Doulton

Sanitaryware manufacturers Royal Doulton have moved into the kitchen with a range of built-in coloured ceramic kitchen sinks. Produced in durable, scratch-resistant, stainless ceramic the sinks come in shaded tones of beige, brown and yellow — Missouri Beige, Nevada Brown, Dakota Brown and Maryland Yellow. They can be supplied as double or single oval, circular or rectangular bowls with or without left or right hand drainers and can be built into any worktop or standard kitchen unit.

The Moselle 6760 is a double oval bowl 920mm long x 450mm wide with a central taphole. The Loire 6740 is a single oval bowl an drainer measuring 920mm x 450mm with centrally sited tapholes for mixer and spray which permit fixed for a left or right hand drainer. The Alsace comprises a separate circular bowl (Alsace 6740) both with a diameter of 450mm.

The Moselle, Alsace and Loire can also be supplied with an optional grill drainer and wooden chopping board.

The Brittany 6710 is a single rectangular bowl and drainer, 920mm long x 505mm wide. The tapholes for mixer and spray allow for a left or right hand drainer. The Normandy 6700 is a double bowl with a single drainer, 1125 long x 505mm wide. The two tapholes for mixer and spray permit fixing of a left or right hand drainer. Both the Normandy and the Brittany have been designed so that, if required, a dishwasher can be accommodated under the drainer.

The Picardy 6720 is a double rectangular bowl with a centrally sited taphole. Overall dimensions: 920mm long x 505mm wide.

Further details from Manning & Usher Ltd.

Marley Plumbing

Marley Plumbing have perfected an Integral “O”-ring socketed PVC sewer and soil pipe.

By eliminating the need for a separate coupler the new Marley pipe is quicker and easier to install and therefore more economical in use. Lengths of the integral socketed Marley pipe are simply and permanently connected to each other with the aid of a rubber “O”-ring seal built into the cleverly designed coupling end of each section. The 110mm (4”) diameter pipe is made in 6m lengths for sewer systems and in 2½m, 3m and 4m lengths for soil systems. Developed by Marley, the new pipe is being manufactured at the company’s extensive

Published by ARROW@DIT, 1982
Belco

The Selecta shower system is the perfect answer to the American and Continental criticism that our showers are ineffectual. This Selecta booster pump and shower mixer valve, combine to produce a shower of such potential that even the sternest critic will be deflated. When the Selecta shower kit is added the result is a shower of such versatility that the most fastidious will be happy.

The Selecta shower booster pump was launched on the market some twelve months ago during which time it has been acclaimed as one of the greatest innovations in the sphere of shower evolution. This pump produces an 18ft. simulated head to any existing head of water. The twin impellers will remain unaffected by other demands on the water system. Easy to install it produces a shower that is safe and reliable. Every new shower area will be incomplete without a Selecta shower booster pump but it can also be installed in existing systems.

The Selecta shower mixer valve is the very latest and most up to date shower mixer valve on the market. Of modern design, in three finishes, it is simple and safe to operate and automatically activates the pump. Modern technology has provided design and materials which ensure less wear and tear, less scalding or corrosion so that the valve is virtually maintenance free. The Selecta shower mixer valve is an important feature on the whole Selecta shower system and when used with the pump is so sensitive that a thermostatic control valve is not necessary. When fitted on its own, modern design engineering ensure a more abundant shower even without the pump.

Details from Doherty Ross & Armstrong Ltd., 40b Ravenhill Road, Belfast 6. Tel: Belfast 52613.

Twyfords

Twyfords Bathrooms, one of Britain's leading bathroom manufacturers and exporters have something like a 300 year old pedigree in the production of ceramics.

Twyfords have recently launched a new colour Almond. A creamy off
BS 864/2 COMPRESSION FITTINGS AND BRASSWARE

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ITALIA

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tel: 300650 CREVAN 1

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Woodfarm Cottage
Kennelsfort Road
Palmerstown
DUBLIN 20
Ireland

tel. 267356
**Take a few pro.**

**Seal-ring joints only where needed for thermal expansion**

The Terrain soil system uses seal-ring joints only to accommodate normal expansion. Fewer joints mean fewer fixings, and savings in time and labour.

**Stress-free solvent-welded joints**

A true weld, as strong as the parent material. The system is stronger, more rigid, and needs less support.

**Accessibility throughout the system**

Our branches, bends and connectors provide maximum access. In addition, access doors are available where required.

**Close coupling bend for tight areas**

Terrain is ideal for installation where space is limited, as in narrow service ducts.
Prefabrication of multi-piece assemblies

The solvent-weld system is ideal for prefabrication. Terrain will assemble purpose built stacks, accurately under factory-controlled conditions, with no errors, no waste, and no security risks.

If you want to construct the finest possible soil system in the shortest possible time, here's a tip—insist on Terrain. Terrain is the system made by professionals, for professionals. Its solvent-weld joints give you a rigid, stable structure which can be put together on site, or prefabricated in the factory. And either way, it needs less support—which means faster and easier installation.

Find out more about Terrain drainage systems today, by ringing us on Freephone 3115. You'll find we've got all the answers at our fingertips.

Telephone 771801 for technical advice

Systems for Professionals.

Unidare Limited, Finglas, Dublin 11. Telephone 771801
If all bathrooms are the same, why do more people choose ours than any other?

The superlative quality of Armitage Shanks.

Armitage Shanks make beautiful bathrooms. Quality bathrooms with an extra splash of colour and an added touch of style. You can choose your own, very individual suite from our Armitage Shanks range, right now. And make your bathroom the beautiful place it ought to be.

armitage shanks

The one you know best.

Armitage Shanks (Ire) Ltd.

Cookstown Industrial Estate, Tallaght, Co. Dublin.
Phone: 510731, 510951
PRODUCT REVIEW: PLUMBING EQUIPMENT AND SUPPLIES

white, Almond is the perfect foil for any other colour in the bathroom. It also represents the launch of a seventh new colour within three years, by Twyfords.

Like all the others, Almond was tested by householders and emerged as perhaps the new classic for the whole range, which now includes 10 colours plus two decorated suites.

Fashion favours pastels and reports show that the majority of people prefer to use ceramic tiles in the bathroom and they chose Almond as the best complement for any other colour. Almond looks most luxurious of all with Aztec 24 carat gold-plated fittings by Twyfords.

The third generation two-tone colour is new Harlequin Pampas from Twyfords, a development for previous Harlequin Sandalwood and Avocado was so heavy that Twyfords have added a new colour treatment to the popular Pampas.

Along with the new Harlequin Pampas comes another alternative choice of basin. In addition to Astral and Louise is the Nocturne, now available in all the Harlequin colours.

Harlequin Avocado, Harlequin Sandalwood and now the new Harlequin Pampas.

Twyfords New Showers Shape Up

Twyfords Bathrooms have recently formed a new division, Twyfords Showers.

Twyfords Showers new 3000's luxury range is completely different in shape and finish from any other shower enclosure on the market. Manufactured by the British owned Huppe Company in Germany for Twyfords, the new luxury range includes a new side panel cleverly moulded with extra shelving outside and inside the shower itself.

Called the 'Butler' side panel, it makes the most of every inch of bathroom space. Making a virtue from necessity it gives the new 3000's a unique look and a unique selling point.

Another exclusive look for the '3000' is its raindrop design moulded into the polystyrene doors and sides. It comes from one of Huppe's leading women designers who cleverly turned the water droplets which naturally form, into a design feature.

Also by Huppe from Twyfords, is the '1000' series, a limited range, designed for the budget conscious. Available in Clear or Topaz Brown poly-styrene all the framework is in silver anodised finish and incorporates a front gliding door, fixed side panel and a corner unit.

Other Unique Features

The whole '3000' range has been commended, both for its good industrial design and safety by authorities in Germany, where the '3000' and the '1000' ranges are manufactured by Huppe, the leading shower enclosure manufacturers.

All '3000' models have the 'raindrop' design and frames in Classic Grey and Topaz Brown shades. Topaz blends with the gold anodised aluminium framework and grey with silver. All doors on the '3000' range incorporate a full length magnetic strip to ensure a positive closing action and glide smoothly along the fully enclosed lower guide rail for which a patent has been applied. This lower guide rail is specially designed without a groove so that it will not harbour dirt and can be easily wiped clean.

Both ranges are delivered complete with fixing screws and sealant for easy installation and in addition to standard models, special sizes can be made-to-measure. Frames are adjustable on all models to allow installation to out-of-true walls and stocks will be available for speedy delivery after Interbuild.

Another new product is the Colorarmour range of Twyfords' shower enclosures. The name says it all — 'colour' because they are bright and available in a choice of eight and 'Armour' because they are almost indestructible.

Further details from John Usher Ltd., Tel: 519152.

Sanbra Fyffe

Irish Instantor Compression Couplings are manufactured in strict compliance with the Institute for Industrial Research, & Standards Specification, ref. I.S. 239:1980 and at the same time Sanbra Fyffe have applied to the Institute for a licence which will enable them to use the Standard Mark on Irish Instantor fittings as well as literature and this will be a further guarantee that Irish Instantor Compression Couplings are guaranteed and are the best available.

Sanbra Fyffe manufacture Irish Instantor Compression Couplings as well as a range of plumbed brassware in a modern factory in Santry and they give employment to close on 300 people. The factory is capable of manufacturing the total requirements of the Irish market for Compression Couplings on specialised equipment which includes a high level of automation and this ensures accuracy in machining to the closest tolerances.

Irish Instantor Compression Couplings are freely available from builders merchants throughout the country and the comprehensive range includes a fitting for every conceivable type of job. The plumbing and heating industries are familiar with the quality and reliability of Irish Instantor Compression Couplings which for generations have been the market leaders and they are in demand by those who require dependability and an effective back up service.

We say, why not make sure that your stocks are adequate to meet the demand for the standard bearer — the all Irish reliable coupling.

Sanbra Fyffe introduced the Safio range of chromium plated pluming brassware to meet an increasing need in the middle sector of the housing market and since then the taps and mixers have proved extremely popular. The new Star Cross Top taps are ideally suited for municipal housing and are being selected because of the robust nature of the fittings. The Safio range is manufactured to comply with BS 5412 Performance Standard.

Unidare

The Unidare-Terrain soil system has stress-free solvent-welded joints to give a strong, stable structure requiring less supports than other systems. Seal-ring joints are only used to accommodate normal expansion.

Published by ARROW@DIT, 1982
Ideal Standard

Ideal-Standard's range of Dualux bathroom brassware fittings, which incorporate the advanced ceramic disc valve principle, has been extended to include wash basin pillar taps. The new washerless taps which, like the other members of the Dualux family - wash basin and bidet mixer, and three types of bath mixer - and the Idealblend shower mixer range, offer years of maintenance-free operation.

The new Dualux wash basin pillar taps, which carry the ceramic disc technology into the area of the most simple and widely-used type of water fitting, were previewed by Ideal-Standard at Interbuild '81.

In addition to completing the Dualux bathroom range, a new and wholly logical shape is introduced with the new wash basin pillar taps, in which the ceramic discs are housed in a neat and easily removable brass cartridge.

Consistent with other items in the Duaxux range, the handles on the pillar taps are turned through only 90 degrees from closed to fully open.

Mr. Roger Coopser, Ideal-Standard's Marketing Director, said: "We believe that low cost is no longer the priority as people seek to improve bathroom standards. The new, technologically-advanced and sophisticated Dualux pillar taps have been introduced because research has shown us that some people still prefer pillar taps on the wash basin but also demand trouble-free operation and top modern design".

Smaller Brasilia bath

The luxury Brasilia suite has also been extended by the introduction of a 170cm x 75cm bath (approximately 5ft 6ins x 2ft 6ins). Together with the original 180cm x 80cm (approximately 6ft x 2ft 7ins) bath, the appeal of the Brasilia range - one of the most successful - of Ideal-Standard's stable over the last decade - has been greatly widened.

Both the new, smaller bath and the larger bath will be supplied with new and elegant cast grips, which, if necessary, can be removed without the need for access to the underside of the bath.

Back-to-wall Michelangelo bidet

Ideal-Standard have also introduced a back-to-wall bidet to match the back-to-wall Michelangelo water closet which was announced recently. The new bidet, which fits neatly between wall and floor, is for use with a monoblock over-rim supply fitting. The introduction of the bidet means that water closets and bidets in the Michelangelo range now cover three applications - floor standing, wall mounted and back-to-wall - which makes the now famous Italian-created range by far the largest design-related range of bathroom products in the United Kingdom.

New urinal

A new urinal has been introduced to the Coroline range, which now comprises two sizes of wash basin (63cm and 56cm), a well-designed low-level wash down water closet as well as the urinal. The attractive urinal - planned to replace the Coronet urinal - may be used with a back inlet or top inlet spreader.

Crated complete bathroom

To be known as Developer Packs, Ideal-Standard are re-launching their packaged bathroom concept to offer complete suites - bath, wash basin, water closet and fittings - packaged in a single self-contained damage-resistant crate.

The new Developer Pack can be lifted by two persons or a fork lift truck. The choice of suites in the packs includes Brasilia and Tiara wash basin and water closet, the Brasilia bath or Status bath, and a choice of pillar taps or mixers from Ideal-Standard's Jetline range.

Protection for luxury

Sensitive to the need to ensure top quality luxury products are not damaged in delivery, Ideal-Standard now protect water closets and bidets in their Michelangelo, Linda and Brasilia ranges, in blocks of polystyrene foam which cushion the extremities of the pieces.

Rough handling tests, simulating the worst kind of treatment - including hard knocks and even drops - have proved that the packaging is highly effective against damage-producing situations.

Further details from K M Reynolds Ltd., Tel: 520333.
Ventilation in the home is something we regard as essential to prevent cooking smells, steam, fumes and grease from the kitchen spreading through the rest of the house, causing condensation, an unsavoury atmosphere and damage to decor. In the office and works environment, although there may be no cooking smells to contend with, a pleasant fresh environment is equally vital to the well-being and efficient operation of staff who spend each working day (on average, seven or eight hours) in the same room. Basically, ventilation in any room where there is a high concentration of people is necessary to remove the impurities in the air caused by those people. These include carbon dioxide from breathing, tobacco smoke, moisture loss from the body and body odours. Add to these the heat generated by office machines and the dust which emanates from paper, particularly near a duplicating machine, and it is clear that the random opening of doors or, in good weather, windows is not enough to keep foul air from spreading through the rest of the room. In larger rooms a minimum of six air changes per hour is necessary in practice for offices and eight air changes per hour for factories and workshops. The situation is far from enough to keep the air fresh enough to merit official recommendations on permissible levels in the air. These are laid down in the Chartered Institution of Building Services Engineers’ Guide which states that the carbon dioxide level should not rise above 0.5%. Admittedly, to prevent it exceeding this level it is necessary only to provide 0.001 cu. m of fresh air per person, and natural ventilation is normally sufficient for this. However, it has long been accepted that ventilation for carbon dioxide alone is not the best basis for designing a ventilation system. Worth mentioning at this point are the symptoms caused by excess carbon dioxide—drowsiness, slight headaches and a slowing down of work rate.

In offices and factories, there is legislation in the U.K. applicable to ventilation. In offices this is dependent on the air space available per person and the minimum is 11.5 cubic metres per person. With that minimum volume there is a minimum fresh air requirement rate of 4.72 l/s (0.00472 cu. m). There are other statutory requirements but, under normal conditions, to create a feeling of lightness and freshness in the air, a minimum of six air changes per hour has been found to be necessary in practice for offices and eight air changes per hour for factories and workrooms. These rates of extraction are usually more than adequate to deal with both the statutory and actual bodily requirements, but much higher rates will be needed when problems such as heat, fumes and smoke are present. If our weather conditions were always perfect, the wind always blew in the right direction at the correct speed and temperature, and the normal ventilation rates could be achieved by simply opening windows and doors. However, to create reliable conditions, mechanical ventilation using electric fans is necessary.

Warm, four air rises to the ceiling level so it is logical to extract that air at high level and the extract point should be as close to the ceiling as possible, as this prevents foul air 'pocketing' above the fans.

There is a popular misconception that when people think of mechanical ventilation they imagine only cold, outside air being blown into a room. On its own, without an extract system as well, all this tends to do is blow foul air from high level down to occupations level (although there are systems which introduce treated air at high level with low level extract, these systems tend to be expensive and complicated and require careful design by a ventilation engineer). For the simplest, effective ventilation schemes, in the majority of cases high level extraction is the most effective in both practical and economic terms. To give the best clearance of four air from rooms the fans have not only to be sited at high levels, but also as far away as possible from the points where air is going to enter the room (for example doors or, in good weather, windows). In larger rooms a number of fans can be used to distribute the air flow more evenly. One of the simplest and most economic ways of doing this is to use straight-forward window units or where these cannot be ideally situated, fans can be sited in walls or roofs.

What we have dealt with so far is the average approach to the basic necessities of ventilation. Stop now to consider our large, modern premises with their vast expanses of glass and their enormous array of electrically powered equipment — and we have a somewhat different ventilation problem. The solar heat gain in the warmer months of the year and the heat generated by electrical equipment require much more careful treatment, if we are to prevent staff feeling drowsy and less like work as the day goes on. Circumstances obviously vary from one building to another, and require a ventilation engineer to evaluate the heat problems and make recommendations to solve them.

The removal of fumes and heat from work processes is an even more specialised job. There are recommended maximum concentrations for many of the toxic dusts, fumes and gases etc., which may be given off in industrial processes. These “Threshold Limit Values” or T.L.V.s originate from the U.S.A., and are the maximum concentrations of the chemicals to which workers may be continuously exposed.

To get the necessary dilution of a pollutant, needs careful analysis of the conditions, calculations, and treatment, and should only be undertaken by a specialist in this field. This is very important, as warmer conditions, longer working
PRODUCT REVIEW: FILTERS, FANS, BLOWERS AND AIR HEATERS

Chidlow

Chidlow's entry into industrial space heating was based on the precept that escalating cost are causing everyone to examine ways and means of using energy resources more efficiently — no one more so than the industrialist.

The Chidlow industrial space heater has been designed to take advantage of off peak night rates for electricity by using energy storage techniques.

Two sizes are available, 60kW and 72 kW and they are particularly suited to factory areas of around 2,000m².

Chidlow's involvement in the domestic space heater business over the past 20 years and the company's expertise in the design of industrial switch gear and other specialised equipment has given them the experience and background knowledge required to research and develop this addition to their product range.

Built at their Shrewsbury factory this new industrial space heater embodies all the benefits of using electricity — it is clean, easy to maintain, is fully-automatic and responds to the prevailing weather conditions by self regulating controls.

It can be pre-set for working-day use only and because it gives out clean air and causes no exhaust gases the Chidlow space heater provides better working conditions.

Environmentally, of course, because no fumes are emitted there is no question of pollution.

For the factory/warehouse manager or maintenance engineer the Chidlow space heater will become a favourite — there are no burners to maintain, it does not consume oxygen, no messy fuels to order, store or worry about, no additional ventilation is required — just clean, quick response, automatically controlled heating, when it was wanted, where its wanted.

Further details from Redbro Ltd., Tel: 266677.

Roof Units

The most comprehensive range of bathroom toilet duct and wall fans ever offered, is being launched from a platform of experienced engineering, quality, design, and a unit to suit most installations.

Roof Units Marketing Limited is the first company to market a range of fans primarily designed to give the specifier and installer the widest possible choice to suit personal and project requirements.

The Maico (say My co) range represents new concepts in fan engineering and are the product of years of research and development.

Elegant, but more important unobtrusive in today's modern bathrooms, the Maico range of toilet extract and duct fans are available in varying motor sizes, shutter fittings, automatic shutter actions, speed controls, even with plastic wall sleeve, wallplugs and screws.

The range has been specifically designed to give a fan to suit most installations.

Designed for the builder and electrician, for fast, easy installation, the Maico range incorporates many advanced design features.

The main development has been the introduction of a completely silent automatic shutter control system.

A tempered bi-metal strip, automatically controls the shutter open/closed action, silently and positively.

In addition, the design of the fans eliminates the traditional "blister" on the wall and replaces it with a precision wall fitted unit.

Ted Peacock, Managing Director of Roof Units Marketing Limited, commented "Never has a specifier or installer been
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Details available from our Irish Distributors:

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HVN, January 1982
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offered such a wide choice of bathroom, toilet, duct and wall fans. The Maico range is available with combinations of grilles, fixed, automatic and electrically operated shutters to suit most needs. Wall sleeves are offered and, wallplugs and screws are provided. Now the specifier is going to be spoilt with Europe’s No. 1 range”.

Further details from Dan Chambers Ltd., Tel: 720971 720448.

GKN Autoparts

Vent-Axia produce two ranges of extract/intake ventilation units, providing a total of over 50 different models. The Universal range comprises size 12 (305 mm), size 9 (229 mm), size 7 (191 mm) and size 6 (152 mm), all available in window, roof, wall and panel units. The range is specially designed to incorporate the qualities of long life, quiet operation and minimum maintenance and all units feature one of Vent-Axia’s exclusive developments, the Autospring shutter — which operates perfectly at whatever angle the unit is installed.

The models in the Universal range are finished in tundra to blend easily with most backgrounds. The Vent-Axia Standard range is available in the same sizes and models as the Universal range, but in black or ivory finish. For both ranges there are Rangelmaster controllers to vary the speed and direction of air flow.

Vent-axia produce a complete range of Ventilation Accessories to make this sort of installation simple and effective. These Accessories increase the versatility of the fan units, providing a complete ventilation package deal. Application techniques are simple, thus filling the gap between expensive complicated central ducted ventilation systems and the basic fan in the office windows. The range includes a wide selection of grilles, plates, louvres, flexible ducting, filters and fire dampers. Installation costs using Vent-Axia equipment can be at least 50% lower than the cost of installing central ducted systems. The extensive range of accessories makes installation simple, even in roofs and walls where accessibility would normally be difficult. Many modern buildings have widely spaced double
Halifax have launched a new gasfired unit heater and the above is the first of which they hope will be a long line of installations of this product. The heater has been specially developed for the Irish market and has been installed in a company in Cork. The unit type reference is GT. For further details contact Hendron Bros. (Machinery) Ltd., Tel: 376061.

Dantherm
Dantherm gasfired unit heaters are factory assembled, low static pressure type for use with natural or propane gas. They are equipped with either a powerful axial fan for free blowing and heating or with a centrifugal fan or duct or down flow application. The unit heaters can be suspended anywhere and are designed for effective heating or ventilation of areas such as factories, workshops, garages, supermarkets and sports centres. Further details from Hendron Bros. (Machinery) Ltd., Tel: 376061.

Halifax
Multivane forward curved fans were originally developed for the Heating and Ventilating Industry, where air movement requirements are characterised by the need to handle high air flow rates against relatively low pressure differentials, with minimum power consumption and equally, if not of even greater importance, low noise levels. Wider applications subsequently developed, and included many in the process engineering industries, where there is a requirement to handle fumes and hot gases, for example in continuous ovens, batch drying and textile processing plants, to name but a few.

To a design and quality production oriented organisation such as the Halifax Fan Manufacturing Company (International) Ltd. this increasing use of multivane forward curved fans provided a welcome impetus to invest in a coherent research and development programme directed towards improving standards in all aspects of performance and advanced production techniques.

And it is from this basis that Halifax Fan now introduce their latest range of multivane forward curved fans which cater for the widest fields of application, operating at both ambient and elevated temperatures, with the optimum combination of efficiency, generated sound levels, reliability and cost.
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PRODUCT REVIEW: FILTERS, FANS, BLOWERS AND AIR HEATERS

Airflow

Mechanical noise, wasted space and the need for regular maintenance have always been problems with belt-driven fans. To overcome these disadvantages, Airflow have added a large direct drive fan to their Category One range.

The 114J2WL is a powerful double-inlet, double-width centrifugal fan which is intended for use in medium sized ventilation systems where a low noise level is of paramount importance. It is also useful for large clean-room installations where each fan can serve up to 2.3 m² (25 ft²) of "absolute" filter.

The fan is fitted with a 950 rpm capacitor start and run motor with thermal overload and lubricated-for-life bearings. It is wound for 240V single-phase supply and is suitable for continuous use in ambient temperatures up to 40°C. A 3 phase version will be available shortly.

Performance of the 114J2WL ranges from 240 litre/s against 330 Pa to 1700 litre/s against 60 Pa (330 cfm against 1.3 in wg to 3600 cfm against 0.24 in wg). The mounting feet supplied are adjustable to allow vertical, top horizontal or bottom horizontal discharge. Alternatively, the fan may be mounted by means of the outlet flange.

As with all Category One fans, details of the 114J2WL are immediately available from Airflow stockists.

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THE MOST POPULAR AIR HEATERS SOLD IN IRELAND ARE MADE BY POWRMATIC

Building Services News, Vol. 21, Iss. 1 [1982], Art. 1

DOI: 10.21427/D7V49G
Standard & Pochin

Designed on simple principles, BH Series air handlers from Standard and Pochin are inexpensive and versatile packaged units for smaller sized water-fed heating and ventilating systems.

BH units have a flanged outlet for duct connection and can be installed free-standing or suspended from roofing in either horizontal or vertical positions. Four models are available with heating capacities varying from 60,000 to 260,000 Btu/hr and air volume outputs in the 0.34 to 1.8 m³/sec. range.

The cabinet is a robust, steel panel construction.
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PRODUCT REVIEW: FILTERS, FANS, BLOWERS AND AIR HEATERS

mounted on welded angle framework. Thermal and acoustic insulation is provided by a 13 mm thick glass fibre lining. All panels can be easily removed for access to the internal components.

Within the cabinet is a centrifugal fan, selected for low noise output, directly driven by a totally enclosed motor rated at 220/240V a.c., single phase. The two larger capacity BH models are fitted with dual fans, completely isolated for stable performance and allowing two areas to be served by separate ducting.

The heat exchanger is a heavy duty copper tube design with steel connections and aluminium fins. Entering air is drawn through a 20mm thick disposable glass fibre filter cell. As an option, all models are available with speed controllers giving a flexible performance of five outputs plus an off position.

Further details from M&W Ltd., Tel: 976729/976837.

Aidelle

In line with their policy for continued product development, Aidelle are introducing a new design for their small Loovent Extractor Fan. The Mark II Loovent, while retaining the powerful centrifugal impeller incorporated in the previous version, includes several refinements to improve installation and efficiency.

The new Loovent features a secondary chassis which can be first fixed on the wall or ceiling. The fan unit is then fitted to the chassis by simply fastening three screws and plugging-in the electrical connections. This arrangement provides greater on-site security and in conjunction with the new plug-in timer design, facilitates future maintenance and servicing.

Installation is further simplified by the shorter outlet spigot which makes ducting easier in confined spaces by enabling a bend to be fitted closer to the unit. The fan motor is resiliently mounted to reduce vibration and, together with a larger fan scroll case and grille area, ensures quieter running and operation.

The Loovent cover has been re-styled to give a modern appearance and the smooth white finish and flush grille make cleaning easy.

Further information from McKenna (Ireland) Ltd., Tel: 300977.

Reconair

Reconair Ltd., are sole distributors in Ireland for Wolf, NuAire and Fibreglass Ltd.

The range of Wolf unit heaters ranges in capacity from 5.5KW to 275KW and 1,300 m³/hr to 10,200 m³/hr. The solid and elegant casing consists of a welded frame construction with galvanised steel sheet panels. The panels are finished in both water and heat resistant paints. The smooth running motor has built-in thermo-contacts for complete motor protection. Hea exchangers are manufactured of copper/aluminium suitable for a nominal pressure of 16 bar and a temperature of 180°C.

The Wolf range of direct fired air heaters have capacities from 20KW to 1,160KW with air volumes up to 71,000 m³/hr. Their main design features are, space saving compact construction and operating reliability.

The NuAire range of fans is all that the designer or contractor can possibly require in roof mounted, duct mounted and wall mounted twin fan and single fan units. All twin fan units can be supplied with their own controls for both fan failure indication and automatic change-over. Single fan units can be supplied with speed controllers.

A brief list of the NuAire range includes the Mark 10 extract units with mixed flow impellers, solo series units with propeller fans, twin fan and inline duct mounted units, to give 100% standby and sundry equipment.

The products available in the fibreglass range include HEPA terminals, absolute filters, autoroll filters and panel filters of all sizes.

For further information on the above products contact: Reconair Ltd., Unit 4A, Coolock Industrial Est. Coolock, Dublin 5.

Energy Conservation and High Efficiency Centrifugal Fans

Over the next few issues of HVN we will be publishing an article on Conservation of Energy by the Application of High Efficiency Centrifugal Fans to Dust Control Systems. The article is by David A. Scott, Managing Director, Halifax Fan Manufacturing Co. Ltd., and was presented to the Filtration Society of London recently. This important article gives us the most up to date thinking on fan design and how to improve efficiency.
A new company, Modern Plant Components Ltd., Removal House, 195 York Road, Belfast, is representing Alcon Solenoid Valves, Bamford Flow Indicators, Birkett Relief Valves together with a range of shower and wash fountains will be managed by Mark Hewitt, who has had a long connection with the heating and catering trade.

The Energy Studies Group of the New University at Coleraine, headed by Dr. McMullan has obtained a grant from the E.E.C. exceeding £200,000 to continue their research into the world of the heat pump.

Some years ago the group stole the thunder at the Heat & Power Exhibition at Balmoral when they introduced their own locally produced unit. Since that date the group has continued its research into the development of the heat pump and other alternative forms of energy.

Last month the Irish Marinex Petroleum Corporation commissioned a survey by the French company, CGG, in a renewed search for oil or gas in Fermanagh. The survey which is usually conducted by the sending of vibrations into the earth and analysing the result by special instruments will take place over a period of a couple of months.

Now available from HVCA Publications, Old Mansion House, Eamont Bridge, Penrith, Cumbria, is the second edition of the Model Conditions of Sub-sub-contract costing £2.00 (sterling) and the Revised Guidance Notes at £1.50 (sterling).

John Kelly Ltd., Agency Dept., of 23 Station Street, Belfast, has been appointed sole agents on Northern Ireland for the Trianco Redfyre economy family of boilers is available in the following outputs: 300,000, 450,000, 450,000, 600,000, 750,000 and 900,000 btuf's per hour.

The T.G.C. series of gravity fed boilers is available in the following outputs: 300,000, 450,000, 450,000, 600,000, 750,000 and 900,000 btuf's per hour.

The T.G.C. anthracite gravity feed boiler ensures optimum heat absorption with a heat to water efficiency in excess of 80 per cent.

Of vertical tube design, the TGC requires the minimum of attention — large hopper and economical burning rate ensure that refuelling is only required once a day under normal operating conditions.

Spent fuel forms solid clinker which is removed by the ram ejection mechanism into the large ashtray whilst the fire door remains closed, eliminating dust and fumes.

The hopper is easily hand-fed, but a simple screw elevator can be employed to perform this function. The boiler incorporates a thermodynamically-controlled fan with a patented air control device for metering blast and idling air. Secondary above the bed for completion of combustion.

Belfast architects Shanks, Leighton, Kennedy & Fitzgerald have won third prize in a national architectural competition for the design of low cost energy saving homes to be erected on a proposed London site at Crystal Palace.

Jack Willis, Managing Director of Willis Heating Ltd. presented the William Welles Perpetual Trophy to the Belfast College of Technology to be presented annually to the best craft apprentices in heating and ventilating. Also present at the presentation were Mr. Welsh head of the department, Mr. Galway a lecturer, Mr. E. Willis and Mr. J. Pettis, Director of Willis Heating Ltd. Appropriately the first winner of the Cup was a Willis apprentice, Graham Cully who received the trophy from Mr. Pettis.

I.E.S. Industrial (Ireland) Ltd., 21 Station Street, Belfast, have increased their sales force by the appointment of Mr. Bob Hobson as a Sales Engineer with special responsibilities for the Energy Related activities of the company.

Mr. Hobson, a chartered engineer with special responsibilities for the Energy Related activities of the company represents Babcock Bristol instruments and Ruston diesel generators which the company represents.

Over 150 members and their guests gathered in the Culloden Hotel, Craigavon for the Annual Dinner of the Northern Ireland Branch of the Chartered Institute of Building Services, CIBS.

Mr. Harry Flanagan, Northern Ireland Chairman presided over the function. The toast of the Institute was proposed by local radio presenter Tony Martin who set the tone for the evening in a light hearted speech and instead of the Irish jokes we had the heating engineer jokes.

The reply to the toast was by the President of the Institute, Mr. Peter Coles who had travelled to Belfast for the occasion. Mr. Coles congratulated the N.I. Branch on their activities and spoke of the Institute’s desire to maintain and improve standards.

The toast of the Guests, who included J. Morrison, Chairman of the RIQS, H. McIlveen, Chairman of the ICE, S. Holmes of the CITB, G. Stewart, Chairman of H.V.C.A was proposed by Terry Jackson who specially welcomed Mr. E. O’Brien, Chairman M. A. Maloney, Vice-chairman and L. Kane, Secretary of the Republic of Ireland Branch of the Institute.

Mr. Eric McBride, Secretary of the N.I. Section of the Institute of Energy expressed the thanks of the guests and again issued a special welcome to the Southern guests and expressed the hope that there would be more co-operation between the various institutes.

Of course the party after the party always ensures a successful evening and this one was no exception as many parties went on to the wee small hours.

H.A.C. Catherwood & Sons (Belfast) Ltd. of Hopefield Avenue, Belfast, have been appointed distributors for C.I.B.C.O. Armac cellulose loft insulator material. C.I.B.C.O. Armac approved by the N.I.H.E. and N.H.B.C. is available under the loft grant scheme. It is unlike mineral and glass fibre insulation in that it is organic which it is claimed by its structure provides greater heat resistance.

Using special blowing machines to ensure penetration & even distribution there are a number of approved contractors already appointed in the Province.
Cold Stores, Refrigerated Displays and Accessories

Just walk into any supermarket and what is the first thing that you notice, apart from the food that is — of course it is the vast amount of space that is given to the frozen foods department. The popularity in supermarkets of refrigerated displays in its various forms has grown recently and together with the use of the home freezer has popularised frozen foods beyond all expectations. This is the only sector in the refrigeration business to show any kind of growth. The industry has taken a bashing, especially the agricultural end as the meat industry has lost out to live export. Supermarkets do not have the sole rights to frozen foods and the local grocer has been quick to see the benefits of stocking foods that have a good shelf life and good profitability. If he buys just one or two units there are up to 10,000 small grocers across the country who are also potential customers.

Fermod

The Fermostock shelving system being manufactured from anodized aluminium (20 micron) is extremely strong, durable and resistant to corrosion. Its “food classification” is due not only to material quality, but also to design. Ease of maintenance and cleaning is achieved by having removable shelves.

The food classification properties are maintained throughout its long life due to the non-corrosive material — even when it becomes marked or scratched. Standard shelf dimensions: lengths 700, 800, 1000, 1200 and 1300mm — widths 400, 480, 560mm. These five sizes give maximum flexibility of design for any shelving system. The height of the shelves can be adjusted in increments of 150mm. Two types of uprights: end upright and intermediate upright. Standard upright dimensions: height 1800mm — width 400, 480 and 560mm. Load bearing capacity uniformly distributed: aluminium 200 kg/m² — stainless steel 300 kg/m². Options: rollers — meat hooks — other design to special requirements.

Features:
- Easy cleaning with removable shelves.
- Easy access from all sides.
- Extremely rigid construction.
- Maximum flexibility of application.
- Can be erected in L - T - U and X configurations.
- Quick assembly without bolts.
- Stainless steel and aluminium can be used together in one system.

Searle

HRP Walker, the Dublin and Belfast refrigeration component wholesale subsidiary of Walker Air Conditioning, is offering the Searle range of air cooled condensers, coils, unit coolers and allied products throughout the 32 counties. Walker has been analysing all the products available from its HRP Division with a view to strengthening its product offering to the frig trade and is now taking on the Searle range in place of Myson. HPR Walker claim the Searle product offering is greater, the quality is well established, and the price competitive. The company is also seeking new larger premises in Dublin from which to operate in order to further improve its service to the trade. A number of possible new locations are being actively considered at present.

HRP Walker will now add Searle to its other major lines which are copper tube; Iseon refrigerant; Aspera, DWM Cope- land, Danfoss and Lec compressors and condensing units; Teddington thermostats, pressure controls and expansion valves; KMP driers; Imperial Gould servicing tools Watsco line valves; Ranco controls; Armalux insulation and Sabroe components.

The major Searle products available from HRP Walker are the T range of compact coolers for cabins and small cold rooms; the UCL and K ranges of...
standard unit coolers for medium or low temperature applications and the new low velocity coolers ideal for food preparation areas, and a wide range of condensers.

The Searle products for HRP Walker will be supplied by HRP Export, the overseas arm of the HRP Group which has won the UK franchise for Searle.

HRP Walker also holds large stocks of compressors, evaporators, piping, controls and components, in short the package of products for virtually any job. Among the franchise the company holds are, Iseceon refrigerant, DW M Copeland condensing units, Myson coolers and condensers, Teddington thermostats and expansion valves, KMP driers, Imperial Groud servicing tools, Watsco line valves, LEC condensing units and compressors, Ranco controls, Danfoss compressors and condensing units, Robinair tools and service equipment, Armadex insulation, Yorkshire Imperial copper tube, Sabroe components.

But whatever the product it is vital for the wholesaler to have real product knowledge. Some manufacturers offer a seemingly bewildering choice, as a wholesaler with a list of alternatives to offer, HRP can be relied upon to recommend the right hardware for the job.

Further information from HRP Walker Ltd.

Walker

Two recently introduced reciprocating liquid chillers are available from Walker Air Conditioning Ltd.

The 30HK and 30HL Series are each available in four sizes with nominal cooling in the range of 118 to 210kW and are ideal for use in chilled water air conditioning systems and various type of process cooling applications.

The 30HK models are packaged units complete with cooler, condenser(s) controls, factory refrigerant charging and internal pipe and wiring.

The 30HL series is a condenserless version of the basic 30HK, shipped with a holding charge of refrigerant and specially designed for applications with remote water, air-cooled or evaporating condensers. Both ranges are designed for easy installation. On-site the only connections to be made are external water and power to the 30HK and refrigerant line connectors to the remote condenser for the 30HL. The series are also extremely compact, easily able to pass through standard doorways and requiring minimal floor space.

In all applications, quiet operation is important and Carlyle have ensured this with both Series.

Enclosure panels around the compressor are insulated and mufflers are fitted to deaden hot gas pulsations. The compressors are also mounted on heavy sprints to minimise operation noise and the transmission of potentially damaging vibrations to the building structure itself.

Both 30HK and 30HL models have low running costs, enhanced by sequential starting and stepping up multiple compressors, two separate refrigerant circuits for the most efficient operation on part-load and refrigerant subcooling which increases system capacity without raising power consumption.

Both Series also have low maintenance costs, which are minimised by easy service availability for instance, by incorporating bolted semi-hermetic compressors — and several self-protecting features.

These include a filter-drier, fitted as standard to keep refrigerant circuits free of harmful moisture and contaminants.
The most varied applications of the products of the refrigeration industry: from freezer rooms for the preservation of food products to systems for the testing of auto vehicles.
PRODUCT REVIEW: COLD STORES, REFRIGERATED DISPLAYS AND ACCESSORIES

below set point). The relays are s.p.d.t. voltage free to permit independent switching and, if necessary, remote indicators or alarms. Input voltage range is 200-240V, 50-60Hz. Output relay rating is 10(5) amp, 250V (per relay). Control ranges presently available are -35°C to +10°C, and -10°C to +35°C; but other ranges and voltages can be made.

Ranco products are available from RSL Ltd.

Robinair

Robinair's development programme for a new range of test instruments, which commenced with new analogue and digital temperature testers last year, is continued with the introduction of a solid state Ranco Vacuum gauge. Robinair's new vacuum gauge not only covers the refrigeration and air conditioning service engineer's requirement to be shown accurate vacuum readings, but is also an instrument that is rugged enough to stand up to field service work. Robinair's new gauge features solid state circuitry to provide this robust requirement and 10 individual light emitting diodes to indicate clearly and accurately the vacuum levels. Part No. 14830 is battery operated and is provided with a durable plastic carrying case that can be hung from a hook for convenience. Competitively priced against compensated dial type vacuum gauges, this new Robinair instrument is the ultimate in convenience and accuracy for vacuum measurement.

The latest addition to the Robinair range of test instruments, following the introduction of temperature testers and vacuum gauges for the refrigeration service engineer is a brand new Volt/amp/wattmeter, Part No. 14865. Robinair's new instrument has normal and peak switch settings which enable the serviceman to read both normal and peak conditions. The 14865 comes in a rugged carrying case, provides an easy to see, digital reading and is capable of holding peak current readings.

Further details obtainable from RSL Ireland Ltd.

Danfoss

Danfoss automatic controls for industrial refrigeration plants are the obvious choice for most refrigeration systems, e.g. in cold stores, slaughterhouses, breweries, dairies and refrigerator ships. Danfoss attach great importance to having an extensive programme so that their automatic controls for refrigeration plants can cover practically all the functions you could wish for.

Their range of automatic controls for refrigeration plants includes for example: Thermostatic expansion valves; Modulating low and high-pressure float systems; Electronic liquid level regulators; Thermostatic liquid level regulators; Liquid level alarm; Thermostatic injection valves; Evaporating pressure regulators; Media temperature regulators; Crankcase pressure regulators; Capacity regulators; Condensing pressure regulators; Thermostats; Pressure controls; Solenoid valves; Check valves; Automatic and thermostatic water valves; Filter driers.

Further information from J G Sampson Ltd.

Cool Prod.

Cool Products Limited of Belfast are sole distributors of 'PoLadaire' open-type compressors and condensing units in Northern Ireland. The company also serves the Republic. A full range of 'PoLadaire' units and spares are carried. 'PoLadaire' spares are fully interchangeable with the equivalent Frigidaire parts and, following the purchase of the rights to manufacture Frigidaire 'opens' from General Motors 'PoLadaire' is now the sole supplier. Cool Products, although established just over two years ago, is now one of the leading wholesale refrigeration companies in Northern Ireland. The company is a member of the...
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Published by ARROW@DIT, 1982
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With building running costs going through the roof, there are two ways to bring them down to earth.

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Or by getting in touch with Walker.

Walker is helping to put the lid on heating and air conditioning running costs. For a start, there’s a range of more than 4,000 Carlyle air conditioning and heating components — with computerised matching of these components and your needs to design a system that’s absolutely right for the job.

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The widest range of components; computer system design; the incredible energy-cutting benefits of Carlyle VAV systems; the sensational new Heat Machine — all available with Walker’s own brand of pre-and after-sales service.

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mean with your energy.
PRODUCT REVIEW: COLD STORES, REFRIGERATED DISPLAYS AND ACCESSORIES

• A Sadia Airofreeze K2 modular coldstore.

**Manotherm**

The West WE01 Controller has been designed mainly for temperature applications where there is a requirement for precision control performance coupled with low capital investment.

**Main Features**

- Plug in construction giving minimum plant downtime.
- Digital (pulse modulation) circuitry giving high stability control terms and increased reliability. PD + PI control action giving minimum warm up times coupled with low overshoot and no offset from set point. Indicator giving actual temperature indication at all times. No routine maintenance. All metal case. Splashproof. Optional cover to prevent unauthorised adjustments. Adjustable integral and derivative terms.

**Principle of Operation**

The controller is of the comparison type, i.e., it accepts a signal from a thermocouple or resistance thermometer and compares it with a stabilised reference signal determined by the positioning of the set point potentiometer slidewire. The slidewire operates at a high voltage level in order to minimise the effect of dust etc.

The difference between the reference signal and the sensor input is fed to the control amplifiers. The amplifiers modify the signal and develop an output which is used to operate the final contactor, solid state switch or solenoid valve. The change in process temperature resulting from this action causes the input signal to change so that the difference between the input and reference signals is reduced essentially to zero.

Further information from Manotherm Ltd.
A Condensed Guide to MANOTHERM activities

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