

HEAT PUMPS TODAY

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2024**

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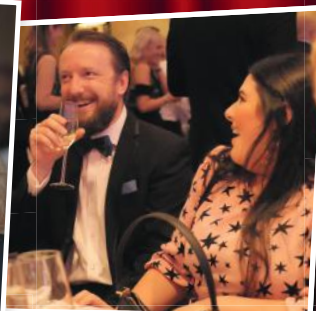
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NACR&HP AWARDS 2024 CATEGORIES

- 1 ACR CONTRACTOR OF THE YEAR
- 2 AIR CONDITIONING PRODUCT
- 3 REFRIGERATION PRODUCT
- 4 AIR CONDITIONING PROJECT
- 5 REFRIGERATION PROJECT
- 6 TRAINING PROVIDER
- 7 WHOLESALER/DISTRIBUTOR
- 8 HEAT PUMP INSTALLER
- 9 HEAT PUMP PRODUCT
- 10 GROUND SOURCE PROJECT
- 11 DOMESTIC AIR SOURCE PROJECT
- 12 NON-DOMESTIC AIR SOURCE PROJECT
- 13 ANCILLARY PRODUCT
- 14 RACHP WOMAN OF THE YEAR
- 15 PHIL CREANEY'S ACR CHAMPION

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Welcome to the October/November issue of Heat Pumps Today

The team have been working flat out as our next exciting event is coming to fruition. The re-launched ACR Trainee of the Year Awards luncheon, now known as the **ACR & Heat Pump Trainee of the Year Awards** will be held on the 7th of December, Old Trafford Manchester. This sought after awards luncheon now incorporates a total of 6 categories, reflecting more the different apprentice/trainee roles across the sectors.

- 1) Project Engineer
- 2) Sales & Supports Services
- 3) Heat Pump Installation Engineer
- 4) Heat Pump Service Engineer
- 5) Air-conditioning & Refrigeration Service Engineer
- 6) Air-conditioning & Refrigeration Installation Engineer

The top 3 finalists within each category, plus a guest of their choice will be our invited guests on the day. Gold winners will receive £600 cash prize each, an Apple Watch and certificate with trophy. Silver and Bronze winners will also receive an Apple Watch and certificate. Many thanks to our sponsors for enabling our wonderful prizes.

It's highly likely this event will be sold-out once you have received this issue but do feel free to get in touch, in case any further places have been released.



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Warners Group Publications Plc
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 01778 391000
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www.warnersgroup.co.uk
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EMIRATES OLD TRAFFORD
 The Pavilion, Talbot Road, Manchester M16 0PX





Upgraded building services at Recipharm contribute to carbon reduction goals as part of £4m refurbishment by BES

The £4 million project to design, construct and commission a production facility for the global drug delivery devices manufacturer, Recipharm, has now been completed and handed over by BES, a specialist in controlled environments for the pharmaceutical and healthcare sectors.

The 4000 m² facility, located in King's Lynn, has involved an extensive redesign and refurbishment of a large section of an existing assembly facility first designed and constructed by BES in 2014. BES has carried out several successful projects at multiple sites over the years; this project originally created additional capacity to enable Recipharm to futureproof for expansion and the new adaptation allows Recipharm to realise that goal.

The project included the refurbishment and remodelling of approximately 70% of the ground floor and 60% of the first-floor plant areas including a new mezzanine level, increasing the buildings floor areas by approximately 8%. The works involved minimal alterations to the external fabric of the buildings but required additional transformer/switch gear, significant

services work and new mechanical services plant. Existing cleanrooms and fallow areas were stripped back, remodelled, and refurbished to accommodate the latest injection moulding and assembly capabilities, with the existing offices retained and used throughout. The installation of 15 new state of the art machines, each weighing between 16-20 tonnes, tested existing floor loadings alongside achieving CO₂ reductions and maintaining 'business as usual'.

CO₂ reduction targets

The significant upgrade supported the businesses sustainability goals, reducing fossil fuel usage across the site as well as reduce energy levels. Recipharm's FM Technical Projects Manager, Alfred Cook, responsible for the facilities capital

pipeline explained. "Originally Recipharm was considering installation of gas boilers, however, this would have involved new gas supplies, roadworks, and the associated disruption of introducing gas to the site. Following consultation with BES the suggestion was to use dry air and heat source pumps. Recognising the value but also realising the cost of initial investment, several new technologies were evaluated."

"Although we were sticking with electric, it was from a sustainable source. Also, the new equipment had high energy ratings, so savings were going to come from improved efficiencies there too."

Overall, the area was also downgraded from a clean room to white room or red area, so this meant it would require less energy to run. HEPA filtration was no longer required, which in turn reduces the amount

Bespak by Recipharm's production facility in King's Lynn, redesigned and refurbished by BES, the specialist in controlled environments for the pharmaceutical sector



of power required and delivers greater energy efficiencies than previously.

Another saving was to come through utilising waste heat from the process systems for use in the HVAC plant. The new chillers and air source heat pumps feature new standby capabilities as well as an innovative recovery chilling process.

Evaluation

An initial assessment of the current plant and equipment was undertaken along with enhanced calculations to determine whether the existing HVAC plant was suitable to be reused. The added factors of phasing, and requirement to keep part of the building operating as "business as usual", were also incorporated within the mechanical design.

Significant services work involved the reconfiguration of existing HVAC systems with new mechanical services plant, responsive to the external climate, and with minimal carbon footprint. Room sizes

were reviewed to reduce the air volumes and reduce energy consumption. Relevant calculations and modelling to ensure energy efficient measures were optimised wherever possible within the scope of the project. The additional specialist systems comprised a building management system, process chilled water reverse osmosis (RO) system, process vacuum and process compressed air systems and sprinkler system.

Thermal modelling

A thermal building model was produced to assess the building's thermal profile, enabling BES to provide the correct equipment and plant sizing, while taking account of dynamic changes throughout the year. One of the key parameters was to ensure the main process rooms were stabilised within a set temperature profile.

It was agreed that several existing air handling units and associated HVAC equipment could be retained and reused, while ductwork pipework, ▶



Bespak by Recipharm's cleanrooms were extensively remodeled and refurbished to house the latest assembly capabilities



BES at Bepak by Recipharm's new facility undertaking final checks

low temperature hot water (LTHW) and chilled water, compressed air, domestic hot and cold water, and sprinkler system were stripped out.

Air handling unit 1 (AHU01) was dedicated to the moulding room only and modified to suit the new projection requirements. The existing bypass cooling coil would be bypassed with a new cooling coil and this utilised for the latent cooling of the outside air only. A secondary sensible coil was installed in lieu of the existing HEPA filtration section, and the new arrangement provided significant reduction in cooling demand and energy savings, completely removing the need for reheating post latent cooling.

Air handling unit 2 (AHU02) served the rest of the facility, as its size and components were suitable for the newly calculated demand, with limited modifications.

HVAC chilled water

An existing heat pump chiller for the HVAC chilled water air handling units cooling coils was replaced with heat pump chillers for a new HVAC cooling only chiller, which then linked to the existing primary circuit. Operating at 5°C flow and 11°C return. The air handling unit coil sizes were sized based on the design air volume +10%. A further margin was added to the chilled water flow rate to allow for pipe losses.

Most of the cooling requirement will only be needed during warm periods; there is a base load all year round demanded by the moulding lines when in operation, therefore, a second standard chiller, is in situ for use on a standby arrangement. It would also offer free cooling of the chilled water system during colder months.

Regarding maintaining the room temperature profile in the moulding room, the temperature difference between the room air and supply air was not to exceed 8°C. The moulding process required the ideal supply chilled water temperature at 24°C. The low flow rate through individual equipment provided a high return temperature of up to 75°C, with potential to peak at up to 100°C.

It was agreed dry coolers that provide refrigerant free cooling utilising ambient air would deliver a good solution. If the ambient condition was lower than the required chilled water condition. A dry cooling system delivering chilled water at 20°C was provided. The process cooling water being used to cool down the melted plastic in the moulding tool. During days with high ambient temperature the system is supplemented with the HVAC chilled water system that cools down the higher temperature chilled water from the dry coolers via a plate heat exchanger.

A new vacuum system was installed to support the process chilled water


operation, to evacuate the residue water from the moulding tools, once disconnected from the process chilled water loop. There is also potential to reuse this wastewater, which is under an ongoing assessment in terms of cost vs payback.

Benefits

Alfred Cook added: "This is one of the first of our facilities to include these sustainable production process solutions. We will be evaluating the benefits as we start operations. Although we understand the base usage, we naturally need the plant fully up and running to understand the whole picture."

"We very much hope aspects of what we have introduced will benefit the rest of the business, as we look at rolling out similar approaches across our other facilities where appropriate as we make further strides towards greater carbon reduction.

BES was principal designer and contractor and Colin Clayton, BES's Senior Project Manager, added: "It has been satisfying to be able to maximise our knowledge of the facility from our earlier involvement and take it to the next level to meet the needs of smarter manufacturing capabilities."

Alfred Cook concludes: Overall, this has been a very good project completed within an aggressive timetable, enhanced by BES's friendly, open, and honest approach which has made life much easier throughout." 



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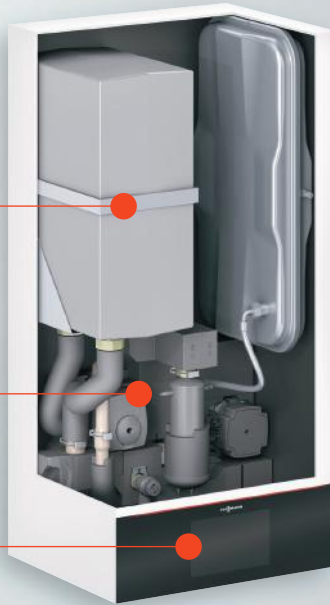
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Good Energy launches 'green home stories' to celebrate the success of Heat Pumps

An Oxfordshire couple have praised the "transformational" impact of installing a heat pump, as part of a new campaign to encourage the switch to cleaner and greener homes.

Paul and Anne Cullen, from Mollington near Banbury, previously used an oil-fired boiler which was so expensive they could only afford to warm a few rooms of the house, and they dreaded getting up in the mornings during the winter. However, they've now slashed hundreds of pounds from their energy bills after the installation of an air-source heat pump – and the house has gone from being 'perpetually cold' to 'a pleasure to live in'.

Their story is shared by renewable energy company Good Energy in a new campaign called Green home stories, which features Paul in a short film explaining the difference it's made to the couple's life.

Social workers Paul, aged 72, and his wife Anne, aged 70, have lived in their home for almost 40 years. They loved the property but were deeply disappointed by

their heating system. Not being connected to the gas grid, they originally used coal but switched to bottled gas and then an oil-fired system.

Anne said: "It was too expensive to warm all of the house, so we had to choose which rooms to heat and avoid using the others. We were perpetually cold. We had to sit in blankets, and we had to brace ourselves to get up in the morning."

Paul added: "The oil tank was at the top of the garden but it smelt all the time. It was horrible. It's made an amazing difference. Our home is now permanently comfortable and it's a pleasure to live in. Some of our neighbours were worried about the noise from the heat pump when we told them we were having one installed, but it's so quiet. It also caught the interest of other villagers. One saw the work taking

place and stopped to chat to the engineers, and now he's installed a heat pump at his home too"

Good Energy chief executive Nigel Pocklington said: "We're grateful to Paul and Anne for sharing their story as part of our new campaign. There's so much misinformation clouding the debate around heat pumps, so it's important to hear from people who have made the switch and never looked back.

Heat pumps should be installed in all new buildings as standard, and retrofitted in as many other buildings as possible, to reduce energy bills and support the transition to a cleaner and greener future." ➔

Info
www.goodenergy.co.uk



Product focus:

Thermox DTX Thermal Fluid

Hydratech have been formulating and manufacturing heat transfer fluids, glycol formulations, antifreeze solutions, corrosion inhibitors, water treatment and conditioning chemicals to protect cooling and heating systems for over 25 years.

In 2010 Hydratech launched Thermox DTX, a pioneering non-toxic heat pump thermal fluid formulated to improve system efficiency, save energy, and provide comprehensive system and component protection.

Commissioned in thousands of commercial and domestic heat pump systems, the high efficiency heat transfer fluid – via a patented the DeTox™ additive - utilises the advantages ethylene glycol has over propylene glycol, whilst delivering a non-toxic solution.

Key benefits of Thermox DTX over traditional propylene glycol based fluids include:

- More efficient heat transfer
- Easier to pump, especially at low temperatures
- Less volume for the same freeze protection
- Cheaper per litre

Specified by the UK's largest heat pump contractors, installers and designers, including Kensa, Nu-Heat and Ideal, Thermox DTX is formulated with multi-metal and multi-function inhibitors, to protect heat pump pipework and system components from internal corrosion, scaling and biological fouling. Classified as non-toxic and food-safe, the Hydratech product is readily biodegradable (90% over ten days) and will not remain in the environment or bio-accumulate.

Thermox DTX: at the heart of the UK's leading heat pump projects

Hydratech are committed to helping the UK achieve zero emissions by 2050. A recent collaboration saw Hydratech work as technical partners on a turn-key heat pump project, capable of producing 12% of the UK's tomatoes. Low Carbon Farming's mega-greenhouse projects in Norfolk and Suffolk, a world-first for renewable heating has 70 acres of greenhouse growing space - five times more glass than the Shard, and over 10km of underground pipeline. Utilising Thermox DTX fluid technology, the carbon footprint of the food produced at the sites is expected to be 75% lower than equivalent European greenhouses, and

10 times more productive than field farming. Other projects benefitting from DTX technology include Scotland's new national energy and sport centre, Rolls Royce's on-site CHP at their primary manufacturing plant, and numerous council *renewable housing schemes.*



Thermox DTX Properties

Non-Toxic: Tested and classified as Non-Toxic by an EPA certified laboratory.

Optimum Flow: Thermox DTX has improved heat transfer characteristics. Including lower dynamic viscosity and higher thermal conductivity.

System protection: Thermox DTX contains synergistic corrosion inhibitors to protect metals commonly found in such systems. It has been independently tested and found to meet BS6580 and ASTM D1384 corrosion standards. Thermox DTX also contains scale and biological inhibitors to help prevent fouling – thus promoting long operational life and high thermal efficiency.

Frost protection: -50°C depending on concentration.

Biodegradability: Thermox DTX mixtures are readily biodegradable (90% over ten days) and will not remain in the environment or bioaccumulate.

Working with you

For over 25 years, Hydratech have been assisting the renewables industry with fluid selection - utilising over 150 years combined experience in all aspects of heating applications. Whether your priority is cost, thermal efficiency, environmental impact, toxicity, corrosion resistance or a combination of all these, Hydratech has a fluid to suit.

For more information on Thermox DTX, specialist technical advice and factory direct pricing call Hydratech's Sales Engineers: Call **01792 586800** or email info@hydratech.co.uk

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Batchelor makes splash with pool project

Batchelor Air Conditioning and Refrigeration has completed a project which sees two high efficiency air-to-water heat pumps configured to heat a swimming pool, provide hot water and underfloor heating for the changing room.



The homeowner's requirement for three separate flows from the system presented a number of unusual challenges, but Batchelor designed a complete solution which is now delivering significant financial and environmental benefits to the converted barn.

The 8.5kW Ecodan monobloc units from Mitsubishi Electric, operating on lower global warming potential (GWP) refrigerant R32, supply hot water at 55°C to a pool water heat exchanger, which in turn heats the pool water. They are also being used to provide domestic hot water (DHW) for the changing room shower and sink via a calorifier (a hot water tank with coil heat exchanger), along with space heating via an underfloor system.

The Ecodans are configured in a

cascaded system through a low-loss flow and return header, with zone valves determining if the system is supplying the pool, DHW or space heating.

Wi-Fi control and monitoring

A thermostat detects the pool water temperature and, when required, signals via the pool control panel for the pool circulation pump to start and also for the Ecodan control panel to start the primary circulation pump and Ecodan itself. Wi-Fi control and monitoring is installed, along with independent electricity monitoring and a class II heat meter to measure system efficiency.

Homeowner Tom Williams said: "Having spoken to many companies, Batchelor were the most helpful and proactive at working

with me and the manufacturer to provide a solution to my apparently unique issue of requiring three separate flows from the heat pumps: low pressure hot water for the swimming pool system, hot water for a shower and hot water at a different temperature for underfloor heating.

"The installation was not without its challenges and Batchelor's installation engineer was tenacious throughout, resolving issues as they arose. The system now functions well even at low external temperatures and I am looking forward to a (hopefully) very cheap warm summer where the pumps are rarely on!" ▶

Info
www.batchelor.co.uk



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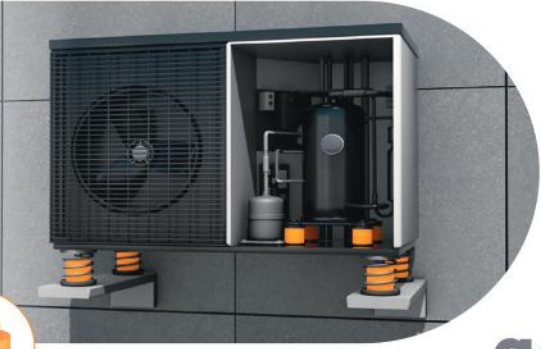
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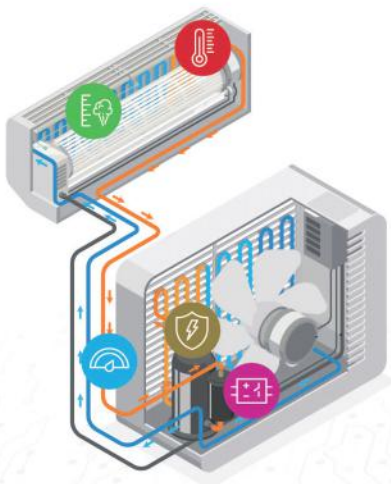


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ELCO Heat Pumps deliver lesson in efficiency at Staffordshire academy

Six AEROTOP® air source heat pumps from ELCO Heating Solutions have been installed at an academy secondary school in Staffordshire.

Comprising five AEROTOP® L65 units and an AEROTOP® M model, the heat pumps were fitted to supplement the existing equipment in a hybrid configuration, ensuring students and staff benefit from a reliable and energy efficient source of heating and hot water.

Attended by 1,300 pupils aged 11 to 18, the mixed secondary school and sixth form was looking to enhance the heating and hot water to its premises, as well as the neighbouring leisure centre housing a 25-metre swimming pool. Following a competitive tender process, West Midlands-based Lord Combustion Services was enlisted to undertake the design and installation of a modern, reliable, efficient, low carbon system, with the ELCO equipment included as part of the specification.

Setting system levels

In addition to the AEROTOP® units, new circuits had to be fitted to link the now-decommissioned plant rooms to the hybrid

system, as the previous fossil-fuelled equipment was replaced by the more efficient heat pumps. New BMS control systems were also designed and installed; these incorporated efficient software strategies, including weather compensation, optimisation and operational control of the system. Doing so enabled the school to plan and set the system levels for occasions such as parent evenings and similar events months in advance.

Commenting on the project, Stuart Smith, Managing Director of Lord Combustion, said: "Working to the school's brief, we were pleased to deliver a system which modernises their heating, while reducing the overall carbon footprint and giving their site team greater control at a time when utility bills remain high."

Regarding the heat pumps, he added: "We have worked with ELCO on numerous projects, so were aware of the energy efficiency credentials throughout their product portfolio. The AEROTOP® L and M

air source heat pumps were specified for the academy due to their ease of siting and installation – as well as their quality. Utilising the units as part of a hybrid system will deliver optimum efficiency and sustainability all year round, while the school should see a notable improvement in terms of its energy bills. After all, we know that budgets are important for schools and academies, not just for capital works but also for ongoing running costs and efficiency levels."

Once the installation was completed, the academy's Director of Estates observed: "This project ticked every box. Not only did the system vastly improve the facility for the school to control areas individually to suit occupancy times, it also supports our aims to continually reduce our carbon footprint towards net zero." 🏡

Info
www.elco.co.uk



Modern Heat Pump History & Future Heating Prospects in the UK

By Bruce Boucher M Inst R

The beginnings of the (Heat Pump) market in the UK started around the 1960's such names as Stewart King Industries (IMI), Prestair Air conditioners, J. Samuel White (JSW) and Tempair to name a few manufactures, serving the UK and exporting abroad.

The growth of the (Heat Pump) in the UK developed so quickly, suitable product was difficult to source. What is happening today to link all this together some sixty + years later and, the two anomalous words we are all now so familiar with the "Heat Pump".

Retailers on the High Street, the swinging 60's, shop lighting lamps of 500 watts each, dozens of them, shining onto the display shelves - highlighting shoes, clothing, jewellery anything and everything on sale. Shoppers fainting in



Bruce Boucher M Inst R

the heat, enter "comfort cooling (HP)", to negate the sensible heat gain just from the lighting alone!

The lightbulb moment!

The London Electricity Board placed an advertisement in the "Sunday Times" in the early 1970's targeting the owners of major High St stores. "Simply we can cool, heat and filter the air in your shops with the magic of comfort cooling and heating, using electric Heat Pumps".

The "Heat Pump" created a whole new air conditioning industry in the UK. Why do I know this? I was there on Oxford St in London, at night, installing the kit. Streets closed so the cranes could lift the units onto the roofs!

Carrier, Trane, Lennox and York all jumping on the growth with so many more names around today.

In the 1960's our homes scarcely had any wet central heating at all, so you could

suggest that the Heat Pump was around well before the central heating market really started to grow at all in the UK.

Neither the heating or HP industry would take any notice of each other, why should they, chalk and cheese. We had a heating and to some extent a ventilation market plus an air conditioning market. In reality today the 2 industries still remain poles apart.

Climate change

Cheap fossil fuel for decades, courtesy of North Sea Oil! Very few, if anyone, gave any thought to “climate Change” anywhere in the World. Use it, abuse it, waste it - why not, it’s ours to waste and, we can export it. Sadly, or perhaps naively and to the majority of our population, if we don’t do something about Climate Change, the world’s population will regret sooner than later all manner of adverse environmental horrors, over time our climates around the globe will become so bad all and everything will suffer.

What’s this got to do with Heat Pumps (HP)? Simply put, why use two fuels when one fuel can deliver both heating and cooling from one clean energy source.

Clever renewables

So, if we are able to produce enough electricity from renewables such as, air, solar, use our rivers and subterranean energy (boreholes & mines) the Heat Pump may well be a real long-term alternative to continue to provide clean heat & coolth to where we live, work and play.

The Heat Pump (HP) is quite a clever bit of technology and misunderstood by the heating industry. The truth, however, is Heat Pump technology has been established for more than 150 years. In 1945 John Summer built a full-scale water source heat pump in Norwich.

Two types of HP appear to be front runners on the domestic scene, Air to Water connected to our new and existing wet heating systems, and what we call “DX splits”, installed by an established AC Industry.

Media coverage

Sadly, newspapers have given the HP a rough ride, added to this a plethora of mixed messaging coming from other facets of social media. The big question is do Heat Pumps really work, and can they deliver what is claimed of them?

"BOILER SIZING IS AN ENORMOUS PROBLEM"

Well, yes, but with a big caveat, they need to be designed, installed and commissioned correctly. If they are not, they will still work but not very well, and with electricity being so expensive not a good outcome. You can also apply in principle the same for fossil fuel appliances, they all need to be applied correctly.

“Temperature” appears to be another huge issue and the heating industry struggles with “Temperature” the vast majority of home heating systems operate at far too high LWT’s. Although condensing Boilers have been around for decades very few condense properly to get best output, as the technology has not been taught to the installers as to how it should be designed, installed, commissioned and operated.

Importance of sizing

Boiler sizing is an enormous problem and remains so as they are mostly oversized. Sometimes 3-5 times bigger than the actual heat loss from the average home. Why is this? Again, if you have never

carried out a heat loss on a building, how do you know how much energy the home or any other building requires.

Knowledge is key to growth

When a prospective customer is thinking of having a HP and discovers it is much less in output than the boiler coming out, they will doubt it could possibly work. If the installer can’t explain all of this competently, the chance is the homeowner will get cold feet (excuse the pun) and install a further oversized boiler.

The UK heating industry has much to ponder on for any future sustainable heating solution. Simply put; if you haven’t bothered to find out how to deliver efficient heating installations including; fossil fuel or a Heat Pump, we will continue to install oversized boilers and poorly performing Heat Pumps.

The industry is struggling to both train and improve an existing ageing workforce and a new generation of potential high earners into the future. If we don’t deliver on this issue sooner than later, what is happening now will continue into the future. Simply the future of Heat Pump success is dependent on developing the skills, which, so far, appear to be very thin on the ground. 📖



Hiring good engineers is achievable, if you think outside the box

By Andrew Fleet Managing Director – Technical Recruitment Solutions

Thanks to advancing technology and Government policy, the heat pump market is taking off. That's something I see in my own work as an HVAC recruitment specialist. In 2020, around 20% of my assignments involved heat pump engineers. Now it's closer to 80%.

Of course, recruiting in this sector is not without its challenges. Employers tend to ask for heat pump engineers who are already trained, have X years' experience and are ready to hit the ground running. Understandable, but in a relatively new field, potentially unattainable.

NASA faced a similar challenge in the late 1950s. They need to recruit space engineers with a skillset that didn't exist. The answer was to recruit and develop people with transferrable skills and an appetite for discovery. It worked for them. It will work for employers now.

Broaden the net

As Chris Higgs, Managing Director of Freedom Heat Pumps told me, Heat Pump engineering thankfully, isn't rocket science. The basics can be learned quickly if you're someone with decent mechanical aptitude and the right attitude.

In his experience, and in mine, heat pump experience isn't much of a factor in how someone will perform, provided they get the right induction, training and support.

For employers this means a slight change in mindset from simply placing an ad or briefing a consultant and then hoping for the best. It's about deciding how they can best attract, develop and keep people with potential, long-term.

Candidate attraction

If you want to attract great people, you need to have your sales pitch tied down.



**Andrew Fleet Managing Director,
Technical Recruitment Solutions**

But look at the majority of ads on the main job boards and you'll see that many default to the 'we need / you should have' approach.

Can you imagine a car ad telling you they needed customers and the driving qualifications you should have to buy from them?

When brief-taking, I often ask clients to imagine they have the ideal candidate as a captive audience in a lift and they have 25 seconds to tell them why they should come and work for the company. This is basically, if you're lucky, what you'll get with your job ad.

Avoid the platitudes. 'We're growing', 'we're a market leader', 'we're committed to (insert cliché here) won't cut it. What are the demonstrable things you can offer your ideal candidate? The solid examples of what's in it for them?

Maybe everything's lined up and you just hadn't expressed it before. Or maybe you need to think more deeply - about how you're going to welcome, train, develop and ultimately keep excellent staff.

Opening up the talent pool through raining

HVAC engineers can already see the writing on the wall for oil and gas. Heat pumps are the future. Many I talk to tell me they'd like to move into the sector, for career reasons or simply to do their bit for the climate.

This is where the industry and maybe government can play a role, by promoting and explaining the technology, and providing cross-training initiatives that make it simpler for people with potential to become qualified heat pump engineers.

Some organisations I work with are already pursuing this line, for example; by providing free online basic training in their products and technology. This allows people to get a feel for the technology and become confident / interested enough to apply for Heat Pump roles.

This is, of course, an investment which smaller companies might not be able to make. If that's you and you're an installer, consider approaching the manufacturers you work with, to see if you benefit from their training programmes.

Treating job applicants like customers

I sometimes marvel at the hoops employers expect people to jump through to get a job. I'm talking about demanding detailed information and covering letters at first application stage, attendance at four interviews, and even a 3 or 4 week wait while a hiring decision is made.

Good candidates are busy people. You're asking them to invest time in applying for your role. Many aren't actively seeking a move. You might well be approaching them - so make the process simple. Do you really need a 500-word essay about why they're perfect for you?

Similarly, don't keep them waiting. I've seen occasions where employers have

taken three weeks to give the good news, only to find another company has snapped the candidate up.

Keeping your people long-term

Cross-training engineers from other sectors greatly expands the talent pool available to you, but doesn't that just mean you'll spend money on training people, who'll then be poached by your competitors?

There are no guarantees, but younger people especially, in their 20s and 30s, tend to be attracted by companies that offer excellent training. The flip side of this is that they'll likely ignore companies that have decided to save the training budget by poaching them.

And there are wider implications here. Your employees are more or less free to leave any time they like, which is why you need to think about how you can keep them long-term.

There are numerous reasons why employees stay or leave. It might be

'the boss'. Or the training. Or the career path. Or the quality of work. Or the flexibility, or otherwise, of working hours. Or about whether they feel consulted and appreciated.

These are mostly areas over which you can have some control, by developing your employment policies and practices. If you're a great place to work people are more likely to stay. And if they do leave, they'll be recommending your company to others.

Finding engineers: Some practical steps

If you're in the market right now, there are some things you can do to stand out.

Use the job boards, but post compelling ads. If you're willing to train engineers from other sectors, make the ad about that. Don't bury the detail in paragraph 14. And remember, ads aren't job descriptions. They just need a couple of good reasons to pick up the phone.

Think about LinkedIn. This is a massive jobs market. Make sure that your company profile is interesting and up-to-date. If you can, include some employment related details. And post when you can, about contract wins, industry awards and your teams.

There are going to be times when only heat pump experience will do, say in a senior technical role. You'll find potential candidates on LinkedIn you can approach, but this is where your profile, reputation and messaging will really count.

An intermediary (it doesn't have to be me) could well help if you're not well known, but go for a consultancy that specialises in the heat pump field or at least HVAC. They'll have the best contacts and brand recognition.

Above all, treat hiring like sales and marketing. Make it easy for the person to apply, maintain excellent communication, keep the number of interviews sensible, and move quickly and efficiently through to offer stage. 🏠



Ironing out the bumps in the Heat Pump roll out

Griff Thomas, MD for GTEC training, looks at the current heat pump market, its growth, potential stumbling blocks, and the tech in development to smooth the transition to a low carbon future.

It's been a bumper year for heat pumps and renewables in general with more households than ever before opting to go green. MCS data shows that in the first six months of 2023, more than 120,000 solar panels, heat pumps and other renewable technologies were installed in UK homes – the highest number ever by this point in the year.

On average, more than 3,000 heat pumps have been installed monthly, with the market doubling since 2021. There is still much to be done and compared with the rest of Europe we are lagging behind when it comes to heat pump installation. For example; 55,000 heat pumps were sold in the UK in 2022, compared with 620,000 in France.



The pace must pick up and not just for environmental reasons. Energy security is a very real concern and due to declining North Sea gas production, the

UK will need to import 60% more of its gas by 2035 if the current demand does not change.

This should all be music to the ears of heating installers who are best placed to upskill into heat pumps. The need is there but at the moment, heat pump installers are not. Bad news stories fuelled by poor installs, a reticence to change and a distrust in the government's schemes, which, let's face it, have often fallen flat, means that many who can train in heat pumps, have yet to take the plunge. Demand is high across GTEC's nationwide centres, but it could and should be higher.

There are undoubtedly some stumbling blocks; many of which are thankfully being addressed with the latest technology.



Common concerns

For installers, one of the biggest heat pump turn-offs is the increased complexity compared with a gas boiler, particularly at the specification and system design stage where accurate room by room heat loss calculations are essential. There is no denying that a higher level of mathematical and engineering aptitude is required; over-specifying a heat pump, something that is commonplace with gas boilers, will leave an end user with expensive fuel bills. Under specifying will lead to a cold home. Radiators must be the right size, usually larger than with a gas boiler and it's crucial that the heat pump is commissioned correctly.

For consumers (and some installers) after cost, it's usually the aforementioned bad press that can be off-putting. It's rare you hear about happy customers! The reality is that there are some very shoddy installs, as is true of all heating, but, unlike a gas boiler, the margins of error are much smaller, so it's likely an end user will notice a poor install more keenly.

The government's Heat Pump Ready Programme has been set-up to support the companies tasked with smooth out these bumps. Stream 2 in particular focusses on the technologies designed to overcome the challenges to heat pump deployment.

Projects in Stream 2 are using the latest digital tools, such as AI and 3D modelling, with a focus on improving the experience for every part of the heat pump supply chain – from specifiers through to end users. Funding has been made available across five tool and technology areas:

- Reducing lifetime cost and increasing performance of domestic heat pumps
- Minimising home disruption whilst providing high-quality installation
- Financial models to support heat pump deployment
- Improving the customer journey
- Smart and flexible home energy systems

Installer support

The use of 3D modelling and the Internet of Things (IoT) is well established in other sectors. We all use apps for everything, and in the future, heat pump installers will be able to do the same.

With room surveying and heat loss calculations so crucial to successful heat pump installation, why not let the latest tech take over and remove the margin of



human error? A number of projects under the HPR scheme are looking at part of this process, with the heatly app in particular providing full specification and design support, streamlining, speeding up and ensuring accuracy in this essential part of the heat pump puzzle.

Consumer confidence

It's a chicken and egg scenario and without consumer confidence the heat pump roll out will stall. Supporting installers to deliver better heat pump schemes is the most important factor, combined with better information and management of expectations. Like many industries, such as architecture and interior design, 3D modelling can play a role in the heat pump process, showing consumers how the heat pump and associated cylinder will fit into a property in the virtual world.

Where consumers are remodelling, these types of tools can also help with other parts of the puzzle - from the aesthetic look of a radiator to the effect of more insulation on heating bills - helping them to make informed decisions about complimentary upgrades.

Support choosing installers, heat pump types, cost and energy savings are all covered by projects in HPR stream 2, paving the way for a more positive and satisfied customer-base.

The bigger picture

Digital technology has revolutionised all of our lives and it's time heating installers and their customers reaped the benefits of a joined-up world. Knowledge is power and the more we know about heat pump systems and the customer experience, the better they will work going forward. What these digital solutions also do is measure data that will allow every part of the supply chain to refine its offering.

Many consumers are already adjusting their behaviour to reduce fuel bills and improve the performance of their building services. The quick adoption of smart meters and smart homes shows that people can change and change quickly. It wasn't that long ago that central heating wasn't a widespread luxury.

Despite a bumpy start, the heat pump roll out's pace should gather greater momentum, with the tools of the 21st century behind it and an engaged and trained installer base to smooth out the bumps in the road. Heating installers should feel confident to upskill, safe in the knowledge that some of the biggest challenges are being taken care of behind the scenes. 🏠

Info
www.gtec.co.uk



Meet the new EHS Mono HT Quiet

High temperature, low Noise,
optimal performance

Samsung's newest eco heating system is the ideal heating solution for Europe's residential renovation market. Durable and stylishly designed, this heat pump combines advanced features and new technologies to achieve hot water temperatures of up to 70°C¹ for domestic heating purposes. It operates at noise levels as low as 35 d(BA)² using a 4-step Quiet mode. It is also capable of reliably providing 100% heating performance* even at temperatures as low as -25°C³. Installation and maintenance of the unit is easy and hassle-free, with its internal parts being accessible via a side panel which can be removed by simply undoing 3 screws.

1. Leaving water temperature, when the outdoor temperature is between -15°C - 43°C. Results may vary depending on the actual usage conditions.

2. Based on internal testing of the EHS Mono HT outdoor units. The noise level is measured 3m away from the front of the outdoor unit, in an anechoic room with an outside temperature of 7°C. Results may vary depending on environmental factors and individual use.

*Efficiency ratio of heating output (capacity) versus power input (electricity). Internally tested under lab conditions based on EN 14511, results may vary depending on the actual usage conditions.

3. Based on internal testing on an EHS Mono HT outdoor unit (AEI20BXYDGG), compared to a conventional EHS outdoor unit (AEI20RXYDGG). Results may vary depending on the actual usage conditions

The Quiet Mark certificate is applicable for UK & EU territories only.

Are you and water distribution systems Heat Pump ready

By Martin Lowe

The surge of interest in Heat Pumps as a possible replacement technology for new and existing heating water distribution systems will involve a more focused approach on design and installation or retrofit. With the current technology based on current refrigerants, no longer will there be a reliance on the compensation currently afforded by the high temperatures of gas boilers for poor design, poor selection, poor installation, and out of balance systems. The CIBSE guides will eventually have to be revised and updated to accommodate the changes.

Sophisticated designs

The current focus of discussions is on replacement of the heat source. Existing




Martin Lowe

Terminal Units pipework and balancing valves must be sized to the new flow rates. Heat Pump designs must be sufficiently sophisticated to remove the need for ultra-low flow rates that are impossible to measure and only give

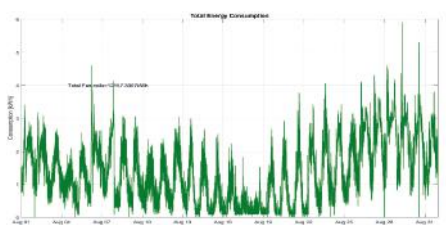
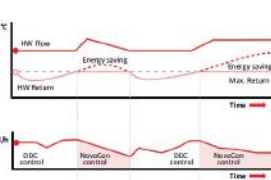
on/off control. Sizing of control valves for Heat Pump systems is a job made easier with the introduction of Pressure Independent Characterised Control Valves (PICCV), provided the right control valve characteristic as specified. An equal percentage characteristic is preferred for lower Delta Ts between output and return, which is a marked change from the more linear characteristic valves used for 20°C to 40°C Delta Ts that are achievable on boiler systems. Ideally the Delta T to each terminal unit should be measured and monitored.

A more favoured solution


Three Port Control valves, if installed to Terminal Units, will cause return temperature problems, and should not be installed. A more favoured solution would be to choose a temperature-controlled



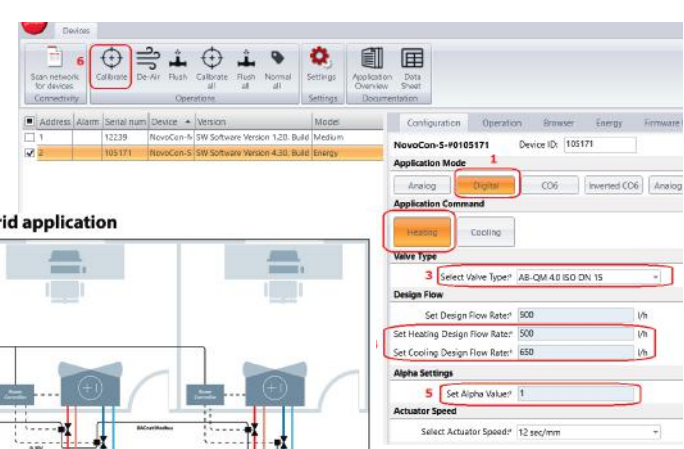
Modular wiring with Temperature sensors

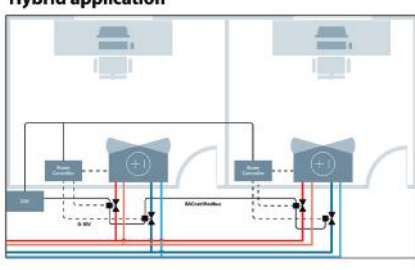
Object/ Register	Write/read value	Description
MSV9 / 32810	Digital	NovoCon/AB-QM opening degree command via BUS
MSV3 / 32802	Selected Valve type	ISO valve selected = l/h, °C and kW. ANSI valve selected = GPM, °F and kBtu/h
MSV10 / 32811	Heating	Any control algorithms used are with A11-A12 in mind
AV30 / 32796	250	Design flow setting of Heating e.g. 250 l/h
MSV13 / 32818	Max. Return Temperature	Ensures the return temperature does not rise above a specified value
AV39 / 32840	Heating T2 value	The value that NovoCon will ensure T2 will not rise above e.g. 60°C



Modular wiring linked to the Configuration Tool



Hybrid application



end of line bypass. Measuring and monitoring bypass temperature should also be a consideration as open bypasses will affect the Heat Pumps performance. Heat Pumps loose performance if the temperature difference between flow and return temperatures is not achieved. To achieve the removal of dirt from the system remains a major objective and the BSRIA BG29 2021 gives good advice on designing system to ensure good flushing velocities. Heating water flow rate tolerances will require revision, possibly to something like those of the Chilled water tolerances as Heat pumps work in the reverse way to Chillers.

Legacy designs

In contrast to the use of new designs within new builds, replacing existing boilers with heat pumps is not as straightforward as you would imagine. Existing buildings suffer from legacy designs and they can be from 30 years to ones which have only just been completed. The designs can vary between Constant volume 3 port systems with belt driven pumps to variable volume 'state of the art' Inverter driver intelligent pumps with Smart actuators to each Terminal device. These new systems would be much easier than the older system as design information, drawings and commissioning data will be more readily available.



As all the buildings already exist and have working systems with boilers, any move away from fossil fuel boilers will have to address the issues of suitability. Buildings that are going to be gutted and refurbished can be considered as a new build. However, what about most buildings that are currently occupied, with no plan to refurbish, that have remaining life not only in the boiler, but in the pipework and terminal units?

"CHANGING TO HEAT PUMPS AND THE INTRODUCTION OF NEW SMART ACTUATORS SHOULD NOT BE UNDERTAKEN LIGHTLY"

Unavailable data

The challenge of converting any existing system from one heat source to another requires a completely different approach and a lot more data focused on what is happening at the Terminal unit. This information is currently not available as the devices needed to collect that data are either not installed or if installed are not being utilised. Existing boilers could be used to simulate lower temperatures like those given by Heat Pumps. But without collecting data on each individual terminal unit at the lower temperatures, how can the change be evaluated. In addition, lowering the temperature without increasing the flow rate to each terminal unit will not give a reasonable evaluation of using a lower temperature heat source. Even if the flow rate could be increased to each unit, the existing pump that has been sized to a much lower design flow rate, is unlikely to be big enough for the increase required. This would mean either the installation of a larger pump or introducing diversity into the system.

All is not lost

The solution is the installation of Smart actuators, initially to some or all the Terminal units. These Smart actuators, with the ability to measure flow and return temperatures while simultaneously





working out the best stem position to ensure the best return temperature, would be beneficial for both the existing boilers and for any change to a Heat Pump system. Working with BACnet, Modbus or the Internet of Things (IoT). Data can be collected on flow rates, flow and return temperatures to each Terminal Unit.

The introduction of Smart actuators does not necessarily mean a change in the PICCV valves, but if the heating has no PICCV valve the addition of a Smart actuator with a PICCV valve on the ends of circuits on floors, would give the eyes to what is happening at initial start-up and then through the day's activities. As data is collected from the Smart actuators for the current design flow rate using boilers, the information of virtual flow and actual flow and return temperatures can be logged and evaluated.

Once the information regarding performance at the 80°C supply temperature is understood, the supply water temperature at the boiler could be dropped from a design of 80°C to a new design of 45°C. The change in temperature can be accommodated by a change in flow rate, this can be done through the Smart actuator configuration programme that allows the valve position to be changed

without physically visiting the valve. The monitoring and logging of information for each Terminal unit can be evaluated at the new lower temperature. This information would give an insight to those who need to understand the full economic impact of changing from a boiler to a Heat Pump before any work is undertaken.

The initially installation of a PICCV valve that can work with the Smart actuator would require some alterations to the Terminal unit. But after that the fixing of the actuator and modular wiring can all be done by Commissioning Engineers or the onsite maintenance team. Each Smart actuator using modular digital cable can be connected to other Smart actuators and the modular Input and Output (I/O) cable for the temperature clip-on measurement sensors can be installed on the flow and return pipework. The configuration tool is simple and straightforward to use, and information is in real time. The control of the actuator and the Data collected can be programmed in by the Controls Engineer.

Hands on courses

Changing to Heat pumps and the introduction of new Smart actuators should not be undertaken lightly as some understanding of PICCV valves, Smart

actuators and flow measurement devices is required. Practical 'hands on' courses have been developed to give consultants, contractors, commissioning and service engineers and maintenance engineers the understanding and skills to understand all the disciplines involved.

In conclusion, developing a strategy for the implementation of Heat Pumps or any other alternative energy source for the buildings relies on detailed data. Understanding that any change will impact on the complete system is key to developing that strategy. However, with the use of new innovative Smart actuators the installation of Heat Pump systems need not be the nightmare described in the current popular press.

Alternative 'refrigerants'

Also, remember that there is new technology involving Helium gas as the refrigerant instead of fluorinated compounds being developed in Norway and the US. This could then easily replace gas boilers without any changes in output temperatures. However, helium gas is rare and so this may be an expensive option. But, CO₂ is also being considered as a refrigerant so lack of Helium may not be a stumbling block for long. 🏠

Research shows lack of understanding on how Heat Pumps work

Brits want to fight climate change, but a third of consumers unaware of how to make homes greener says Russell Dean, Residential Products Group Director, Mitsubishi Electric.



New research from Mitsubishi Electric and Ipsos reveals consumers want to support the environment and, there is growing consumer appetite for heat pump technology. It also finds a fundamental lack of understanding around energy efficiency, and underlines the need for the government to prioritise Net Zero awareness.

British consumers are taking responsibility for reducing the impact of climate change - with 76% believing they have a responsibility to cut carbon impact and help get to Net Zero. But over a third (34%) of British adults still aren't aware of the most environmentally friendly way to heat their homes, despite the government's ambitious goal of reaching Net Zero carbon emissions by 2050 - according to new research from Mitsubishi Electric and Ipsos.

UK consumers want to support the environment, but need more understanding of renewable technology

Home heating is still responsible for around 17% of the UK's carbon emissions, and around 80% of domestic heating comes from gas. To combat this, the UK government is driving a move to lower carbon alternatives, including heat pumps, through programmes like the Boiler Upgrade Scheme.

Heat pumps are three times more efficient than boilers to generate the same amount of heat. In a survey of 1,000 UK adults in June 2023, nearly half (42%) of Brits said they do have some interest in installing heat pump technology. However, understanding of heat pump technology is still low. Only 13% of respondents are currently aware of the environmental benefits that heat pumps offer, and 71% know little to nothing about how heat



pump technology works. More broadly, over a third (34%) don't know the most environmentally friendly ways to improve the energy efficiency of their homes.

Despite government efforts, UK heat pump uptake is currently far below the target of 600,000 annual installations by 2028 set by the UK government – just 60,000 were installed in 2022. To make the Net Zero target a reality, increasing consumer awareness and understanding will be vital.

Cost-of-living is the biggest influence on heat pump adoption

The cost-of-living crisis is a compelling factor influencing heat pump uptake. In fact, 64% of respondents said the main reason they were interested in, or had already installed, a heat pump was to save money on their energy bills over time.

At the same time, the factor deterring almost half (49%) of respondents from installing a heat pump is perceived high initial costs to purchase and install a system, followed by perceived high running costs (29%).

Russell Dean, Mitsubishi Electric's Residential Products Group Director, said: "Heat pumps are a vital technology on the road to Net Zero, but their full potential is currently not being realised in the UK. To make Net Zero a reality, the government must do more to raise awareness among households on how they can lower their energy usage with heat pumps, and dispel any fears around cost and performance of the technology."

A call for government support

Respondents believe that the government has a big role to play in driving the move to Net Zero, in addition to individual efforts. The vast majority (80%) agree that the government has a responsibility to act to reduce carbon emissions, and 41% say the government should set a deadline for decarbonisation of the economy.

However, existing support put in place by the UK government has had limited success to date. For example, less than half of the budget of the Boiler Upgrade Scheme was used in its first year, partly due to a lack of clear communication to consumers.

The government is in a strong position to build greater consumer awareness around heat pumps and the move to Net Zero, but there is more work to be done. The government is the source of information that most consumers (32%) would engage with for advice on heat pumps, followed by heat pump manufacturers themselves (24%), local authorities (23%) and installers (23%).

But despite trusting the government for heat pump advice, less than half (41%) of Britons currently regard the government as being trustworthy when it comes to leading the broader fight against climate change.

To support the drive to Net Zero and heat pump uptake targets, the government must play a greater role in educating

and supporting the public. Jessica Long, Head of Ipsos ESG Consulting, says: "2026 is widely considered a critical date to achieve Net Zero targets and heat pumps are undoubtedly one of the resources we will need to utilise in order to reach this target. However, our research shows, that heat pump uptake is reliant on government intervention, both in the form of educating the public about the benefits of heat pumps, and providing cost-effective opportunities to install these systems. For the majority of people, their environmental choices are driven by co-benefits and in the current economic climate cost efficiencies will be a big part of any energy choices people make."

About the research

Ipsos and Mitsubishi Electric partnered to conduct a study to understand more about consumer attitudes towards, and engagement with electric heat pump technology as an element of the roadmap to decarbonise residential heating in Britain. Ipsos ran an online survey with a nationally representative sample of 1,000 people aged 18-75 across Great Britain.

Online survey ran between 19 and 21 May 2023. Data are weighted to match the profile of the population. All polls are subject to a wide range of potential sources of error. 📌

Info

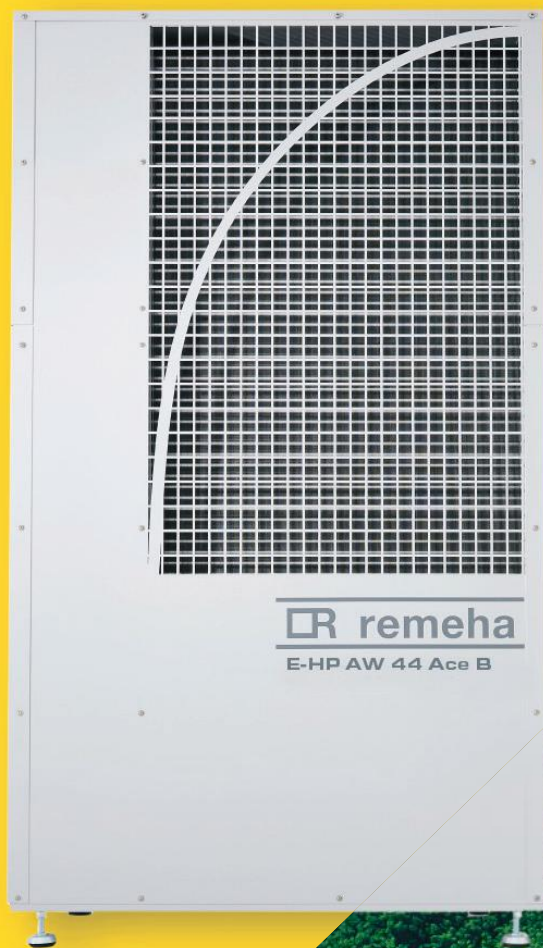
www.library.mitsubishielectric.co.uk/pdf/book/IpsosReport23#page-1



Let's talk Air Source Heat Pumps.

More choice from the heat experts

Today's low carbon heating challenges need flexible solutions working in harmony. Our Air Source Heat Pumps can integrate seamlessly into a complete heating solution.



Start a conversation with our heat experts
remeha.co.uk/morechoice

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The Innovation Zone

The guide to what's new for Heat Pumps Today readers, offering vital industry news. To advertise your product in 'The Innovation Zone' section please contact hayleyc@warnersgroup.co.uk

Zilmet Unveils Game-Changing Zil-B Buffer Vessels: Optimising Efficiency and Extending Lifespan of Air Source Heat Pump Systems

Zilmet, Europe's largest manufacturer of high-quality expansion vessels and plate heat exchangers, has unveiled its Zil-B range of buffer vessels specially designed for air source heat pump installations.

The vessels provide additional water storage in sealed systems, preventing heat pumps from the risk of short cycling, potentially damaging the system and causing a detrimental effect on their energy performance.

Crafted with premium polyurethane foam insulation, Zil-B vessels are available in capacities of 25, 50, 80, and 100 litres to accommodate a variety of installation requirements.

To simplify installation, the Zil-B range comes equipped with an adjustable wall bracket that supports fixture to uneven walls. Additionally, Zil-B vessels feature extra connections for venting and drainage, offering added convenience during both installation and maintenance.

Stuart Gizzi, Managing Director of Zilmet UK, said: "The Zil-B range is a significant step forward in optimising air source heat pump installations. Our buffer vessel range sets a new benchmark for performance and energy efficiency, while extending the lifespan of heat pump systems."

For more information about the Zil-B range and other innovative products from Zilmet, please visit www.zilmet.co.uk or contact its dedicated technical team at sales@zilmet.co.uk



Zilmet is Europe's biggest manufacturer of high quality expansion vessels and heat exchangers, with production facilities, branches and distribution centres spread throughout Europe and the rest of the world.

Its long term focus lies in the research and development of new products, together with devising original, innovative solutions for its customers.

Zilmet can supply a product for virtually all applications. Domestic or industrial; for potable water or solar heated water; from a tiny 2 litre vessel to a massive 1,000 litre heating system vessel. What's more, each is thoroughly tested and most carry the highest levels of certification required for their safe use in the UK and Europe, providing a priceless extra - peace of mind.

Copeland Innovates Integrated Scroll Compressor Solution to Enable Quieter Heat Pumps

Heat pumps play a central role in moving away from fossil fuels to heat buildings and homes. As a more sustainable alternative, they bring ambient heat to the required temperature level with minimal energy input. However, a decisive factor for their legal conformity, acceptance and adoption is noise, especially in urban residential areas. At the 20th European Conference on Refrigeration and Air Conditioning in Milan, Italy, Copeland™ presented innovative technology and complete compressor solutions that enable exceptionally quiet operation. With the help of the new Copeland YHV*RG and YHV*RT scroll compressors, original equipment manufacturers can develop efficient heat pumps that meet the particularly high requirements for low noise in the residential sector, but without the need for elaborate sound insulation.

Copeland solution combines low noise with efficiency and sustainability

The core of Copeland's complete solution is a new type of variable speed scroll compressor designed specifically for heat pumps with R290 (propane) or R454C refrigerant. These scroll compressors generate a lower sound pressure than other scroll compressors: Compared to a standard Copeland compressor, the newly developed scroll compressors of the YHV low-sound series operate at full power with a 10 dB(A) lower sound pressure.

The low sound scroll compressors are complemented by the highly efficient Copeland EV3 drive and the advanced superheat envelope controller (SEC). They continuously monitor performance and ensure that all operating parameters are within their defined safety margins. Because the Copeland low-sound solution package combines quietness with the highest energy efficiency (A+++) and refrigerants with low

global warming potential, it also ensures compliance with the F-Gas regulation, thus making it a future-proof investment.

New Copeland scroll compressors are the key to less noise, lower system costs

"The Copeland package with scroll compressors, perfectly matched components and advanced control technology allows for the design of very quiet and compact heat pumps," explains Enrico Fraccari, director marketing residential comfort, Europe for Copeland. "For manufacturers, this also combines great potential savings in material and labour costs – lower system costs in turn improve their competitiveness."

Further technical information on the innovative range of Copeland low noise scroll compressors is available for download at copeland.com/TheSilentRevolution



The Innovation Zone

The guide to what's new for Heat Pumps Today readers, offering vital industry news.
To advertise your product in 'The Innovation Zone' section please contact hayleyc@warnersgroup.co.uk

Fernox launches a dedicated filter for heat pump systems

Leading manufacturer Fernox has extended its portfolio with the new TF1 Sigma HP Filter, which has been specifically designed to protect air and ground source heat pumps.

Key to its performance is the utilisation of the innovative flow and filtration technology (patent pending), which allows the filter to be capturing all types of debris. The Fernox TF1 Sigma HP Filter is supplied with 22mm or 28mm full-bore valves as standard. The design of these valves is crucial as it means that there is no restriction of flow through the filter assembly, ensuring the heat pump can maintain the required COP (Co-efficient of Performance).

Following the robust design of other products in the Fernox TF1 range, the TF1 Sigma HP Filter is engineered as a sealed unit without a lid for greater integrity and security, reducing any potential for leaks. Fast and simple to service, unlike lidded filters, there is no need for replacement 'O' ring seals, minimising ongoing maintenance costs.

www.fernox.com/product/tf1-sigma-hp-filter



EnviroVent expands its ventilation range with whole house heat recovery system

EnviroVent has launched a new MVHR (Mechanical Ventilation Heat Recovery) range, which is Passivhaus certified*. The Sabik 350 & 500 series has been designed to provide balanced and sustainable ventilation for new and refurbished homes, incorporating modular features, with user-friendly controllability.

The Sabik 350 and 500 systems have significant airflow capacity of up to 414m3hr** and 601m3hr** respectively, and are suitable for handling airflow directions and drain on site to offer flexibility when it comes to ducting configurations. These modular units incorporate a range of features as standard, including integrated relative humidity sensor, touchscreen controller and frost protection.

Optional features of the Sabik 350 and 500 systems include a pre-heater, Volatile Organic Compounds (VOC) sensor, wall spacer bracket for tight installations, and constant flow module which provides the ultimate versatility.

Available in two sizes to suit different properties, the systems benefit from minimal noise levels thanks to reduced air leakage, as well as offering energy efficiency benefits which help to save on annual heating costs.

When connected to an AirSens® sensor, the Sabik 350 and 500 systems react automatically to changes in air quality, instantly increasing the extraction rate to maintain a healthy environment when needed.

www.envirovent.com



Hamworthy heating provides Shastid Energy with a quick and reliable solution

Following a long and established relationship, Hamworthy Heating, a trusted British manufacturer and supplier of commercial heating and hot water products has supplied Shastid Energy with a Tyneham Air Source Heat Pump for installation at its premises in Cambridgeshire.

One of the lightest commercial heat pumps on the market, it features a co-efficiency of performance (COP) rating of up to 4.85, to provide efficient, low-carbon heating. The seven models in the range have six nominal outputs of between 14 to 70kW, which can also be cascaded to achieve higher outputs in larger installations. Incorporating an inverter controller compressor to accurately match the heat demand, Tyneham heat pumps use R32 refrigerant to deliver increased efficiencies.

Designed with installers in mind, Tyneham heat pump components are conveniently housed in the main unit which is compact and lightweight for ease of commission and installation.

www.hamworthy-heating.com



A handy little tool from Makita

Makita has added a handheld blower to its expanding LXT cordless collection. The versatile 18V DAS180 LXT Brushless Blower is the latest product from the leading power tool manufacturer that is also capable of inflating and deflating, simply by changing the nozzle tip.

The new 18V DAS180 LXT Blower is powered by a brushless motor with variable speed control. Suitable for a wide range of applications, from cleaning off workbenches, machinery, cleaning and blocked filters, through to inflating inner tubes and play pools, this handy tool makes a useful companion to any kit bag.

The body is designed with an ergonomic rubberised grip and weighs only 1.7kg. Despite its compact size, the unit is extremely powerful and offers a maximum sealed suction of 10.3kPa. Its 4-stage air volume settings deliver a blowing force of up to 2.8N with a maximum 200m/second air velocity and air volume of 1.1m3/min.

Other features include a one-touch, tool-less nozzle attachment to quickly adjust the tool for each application. The variable speed trigger comfortably controls the blowing force and can be locked in the 'on' position for extended use. A tether feature offers a safe hanging point to secure the tool in overhead applications.

www.makitauk.com





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*For domestic hot water only. **Depending on model output and system design



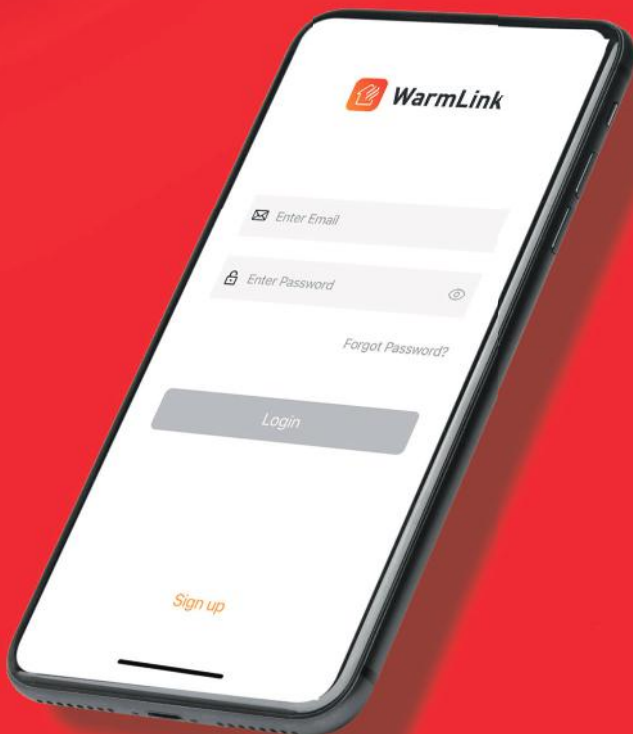
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