



Designing a healthy & comfortable home

The Unico System's **Richard Soper** shares his expert advice on the steps you can take on your project journey to achieve a high-quality living environment

Above: The Unico System's outlets are exceptionally discreet – barely visible here at the top of the wall above the stairwell – freeing up space to achieve your interior design goals, such as prioritising natural light and views

If you're setting out on the journey to create your dream home, chances are it's somewhere you plan to spend a lot of your time – whether enjoying family life, entertaining friends, working from home or simply relaxing in your new pad. It makes sense, then, to put comfort and wellbeing front and centre in your project brief.

Happily, planning a healthy home is more straightforward than you might think. From the materials you use in the build to how you choose to heat, ventilate and cool your living space, here are some key principles to consider that will put you on the path to a creating better, more enjoyable home.

Maximising light & views

Access to daylight is known to support our health, so designing it into your project from the start is a vital step. Indeed, with good design your project can deliver natural brightness while preserving privacy, reducing your reliance on artificial lighting, and capturing wonderful garden and countryside vistas from different aspects of the building. It can even add wow factor – providing views through the property or highlighting special features.

Good daylighting starts with considering the orientation of the house within its setting – and that doesn't have to apply only to new builds. An extension, for instance, could feature an angled gable end to take full advantage of views and ensure your addition bathes in sunshine exactly when you want it. Your glazing choices are key, too, with options such as rooflights, lanterns and high-level windows encouraging top-down natural light that can penetrate deeper into the core of a building than standard windows.

High-performance modern glazing delivers excellent energy efficiency, too, enabling the use of large spans of near-frameless windows and sliding doors – although it's wise to consider overheating risk when specifying significant amounts of glass. Shading systems and solar control coatings can help here, as can your choice of indoor air handling system.

Thermal comfort: heating & cooling

Whether you're self building or upgrading an existing home, one of your key goals will undoubtedly be to create an enjoyable and low-energy living environment, with minimal running costs. A good first step to delivering this is to get the fabric right, by building in good levels of insulation and airtightness. Do be mindful of materials choice in older properties, where it's often best to use breathable products such as mineral wool and lime or clay plasters. A dry and well-insulated structure will perform better, enabling the temperature management systems you install to achieve maximum efficiency.

Thermal comfort, however, isn't just about retaining heat in the building

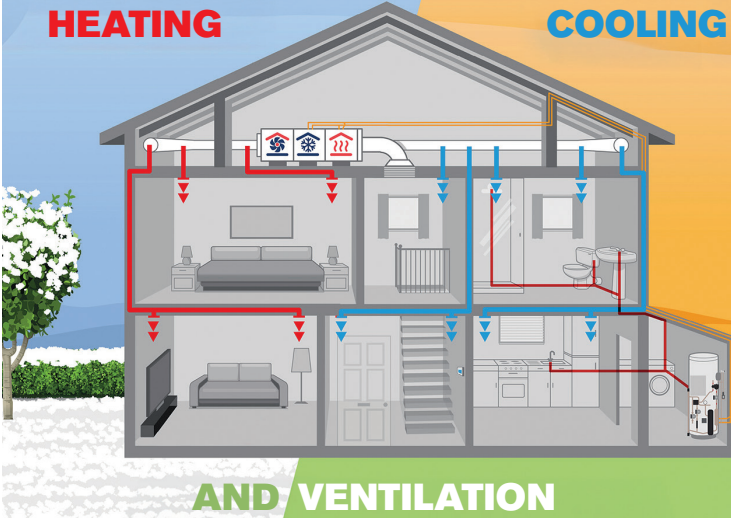
during the colder months. Increasingly in the UK, we also need to think about cooling strategies – and not just in the peak of summer; by April this year, many of us had already experienced overheating in our homes.

Step in HVAC (heating, ventilation and cooling) systems, which can offer a raft of benefits for your project. There's a broad brush of options, but one thing they're all particularly good at is temperature regulation. And if you're imagining the kind of wall-mounted aircon units you might see in a

What is HVAC & how does it contribute to a healthy home?

- HVAC refers to all-in-one systems that deliver heating, ventilation and cooling as a single package. This approach to climate control is already hugely popular in the US but offers real benefits for early adopters in the UK, too.
- The best examples deliver fully integrated control over your home's internal environment and air quality, delivering consistent temperatures and superior comfort levels.
- HVAC systems run quietly, efficiently and without the need for radiators or other wall-mounted equipment. This frees up space and enhances your design options, so you can make your home beautiful to look at and live in.
- Centralised solutions like The Unico System are best in class, delivering ultimate climate control. Unico provides ideal ventilation rates, filters out allergens and toxins, and manages humidity levels to boost indoor air quality.
- You also have the option to integrate HVAC with other systems, such as heat pumps or boilers, for a complete heating and hot water solution.

THE UNICO SYSTEM: YOUR 3-IN-1 SOLUTION



hotel room, fear not! Modern options like The Unico System are designed to offer precise climate control via discreet wall or ceiling outlets that complement your home's decor and negate the need for space-hogging radiators or fans.

Achieving a comfortable, consistent internal temperature starts with good air distribution – exactly what The Unico System was originally designed to deliver. Radiator-based central heating systems rely on wall-mounted thermostats and radiator valves, which can only sense the temperature in their immediate vicinity – potentially leaving you with hot and cold spots. As a small duct, high-velocity system, Unico does things differently by introducing jets of pre-warmed or pre-cooled air. This encourages room air to mix effectively, providing an even climate throughout your whole house.

Heating and cooling cycles are thus more predictable and efficient, saving you money and ensuring optimum comfort. Maintaining a consistent temperature contributes to good air quality, too, avoiding spikes in humidity that could otherwise promote condensation and mould growth.

What's more, because Unico is a centralised system with smaller supply ducting than other whole-house ventilation options, it's easy to install in both new builds and many retrofit projects. Working in tandem with your choice of heat source, whether boiler or heat pump, Unico will deliver a comfortable and healthy home year-round.

Ventilation & air quality

Did you know there can be up to five times more pollution inside our homes than there is outdoors? The secret to dealing with this issue is to focus on creating good indoor air quality through proper ventilation and filtration – protecting the health of both the occupants and the building.

Part F of the Building Regulations was updated in 2022 in a bid to encourage better ventilation, but it only goes so far. This is your home, where you'll be spending much of your time, so think twice about simply doing the bare minimum. Getting the ventilation strategy right is particularly important if you're building or renovating to tight modern construction standards, or if anyone in your household has conditions such as asthma, allergies or compromised immune systems.

As a central air handling system, Unico is founded on the principle of delivering fantastic indoor air quality, offering

advanced filtration, disinfection and controlled ventilation – all in a single package. Plus, its unique cooling coil design means it's able to remove up to 30% more humidity than conventional HVAC solutions, which dramatically reduces the risk of condensation and protects the building fabric, too.

Materials & finishes

Good materials choice is critical for a healthy home. Some construction products are more prone to off-gassing harmful toxins (such as VOCs) than others. Taking care over what you put into your build will therefore help reduce indoor air pollution, while the filtration and climate control functions of your advanced HVAC system take care of the rest of the job. Healthy

materials are gaining traction in UK construction, and some designers, suppliers and trades do have experience using and recommending alternatives. But if breathing good air is important to you, it may be time to get your research hat on.

Consider natural insulation products rather than plastics, for instance; wood wool boards as opposed to gypsum plasterboard; natural lime or clay-based paint instead of the standard stuff from DIY sheds; and the latest options such as bio-composite kitchen carcassing rather than chipboard (which contains formaldehyde and other VOCs). Natural and organic products tend to look and feel better to live with, adding texture and warmth to your living spaces.

Controlling noise

Unwelcome noise can quickly become more than just a distraction, so plan for acoustic comfort, too. If you live near a busy street or aircraft route, for example, products such as triple-glazed or acoustic double-glazed windows can help block out external sound. Noise transfer within the home can be more disruptive than outdoor sources – think stompy feet and teenage drummers. Simple upgrades to floor and wall structures, such as installing stone wool insulation and acoustic plasterboard, will go a long way.

Some of the systems you might fit, such as extract fans or traditional wall-mounted aircon, can also be noisy. Quality is king here. For instance, the small-duct, high-velocity Unico System delivers heating, cooling and ventilation in a whisper-quiet package. Sound-absorbing insulation, vibration pads and acoustically attenuated supply ducts are just a few of the features that, when installed by an approved partner, will guarantee quiet operation.



Above: The air handling unit and central duct for The Unico System are typically located in the loft space. Small, high-velocity ducts spur off this to deliver controlled heating and cooling to each room



RICHARD SOPER is UK CEO at The Unico System. He has over five decades' experience in the heating industry and was awarded a CBE in 2013 for services to the heating and renewable technologies industries. Alongside international board-level roles, Richard was MD and CEO of Bosch Thermotechnology (including Worcester Bosch). The Unico System provides the perfect home climate control from a small-duct, high-velocity renewable HVAC solution that's efficient and discreet. For advice on your project visit uk.unicosystem.com/build-it or call 01384 422094 to speak with the team's technical experts.