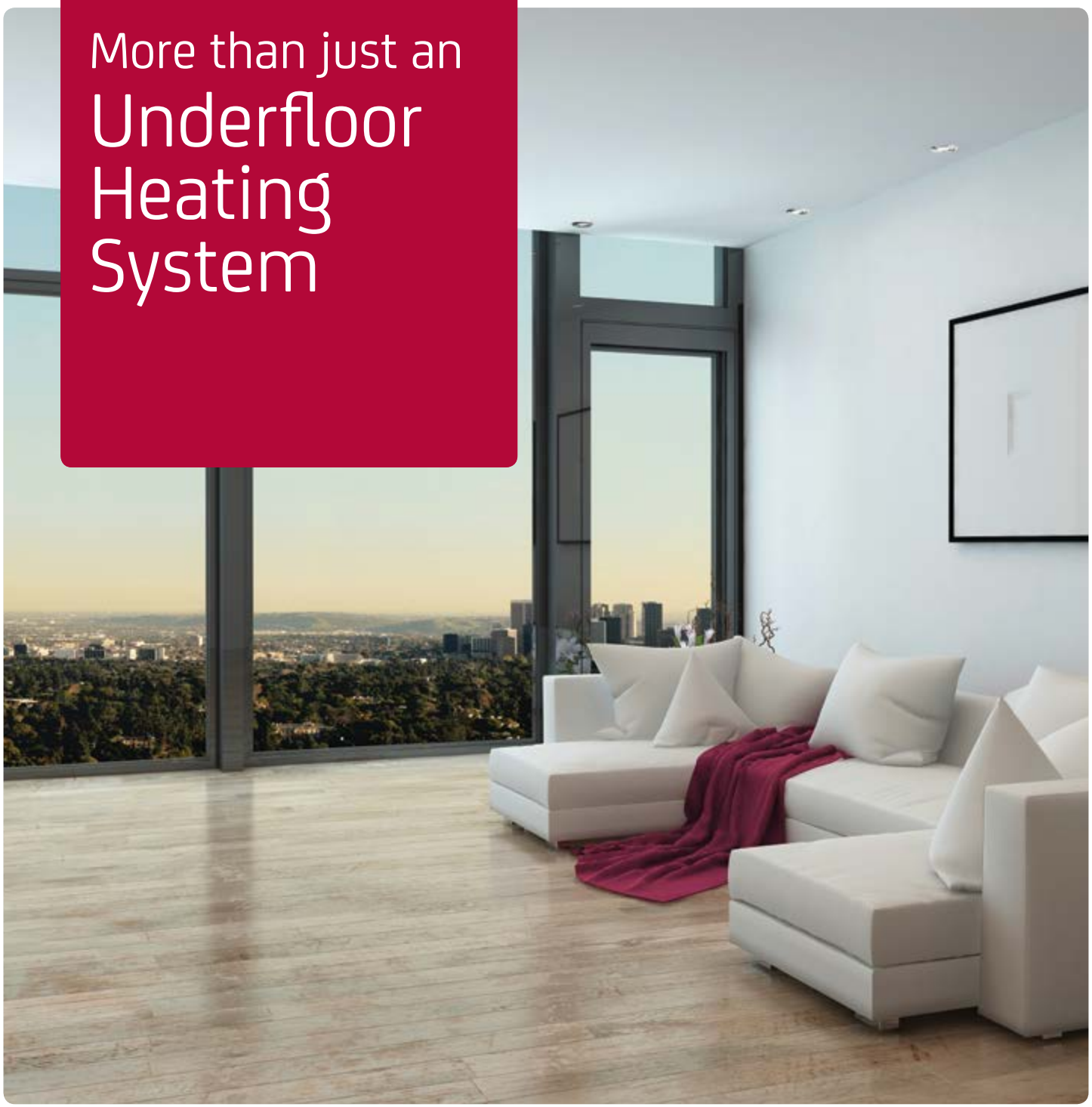
More than just an Underfloor Heating System

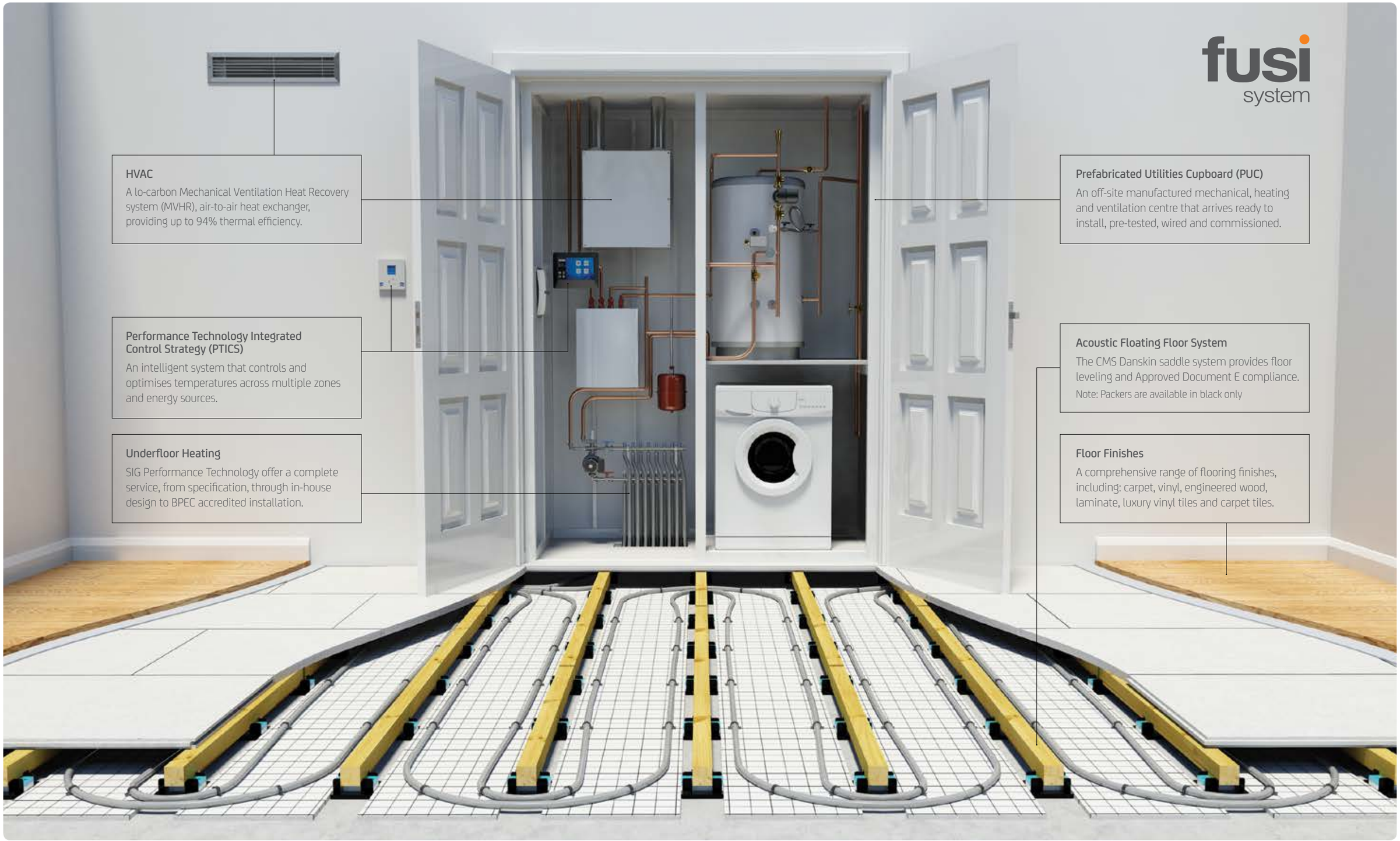


fusi system

SIG PERFORMANCE TECHNOLOGY

More than just an **Underfloor Heating System**

underfloor heating + acoustic flooring + integrated control technology + pre-fabricated services cupboard + HVAC + floor finishes



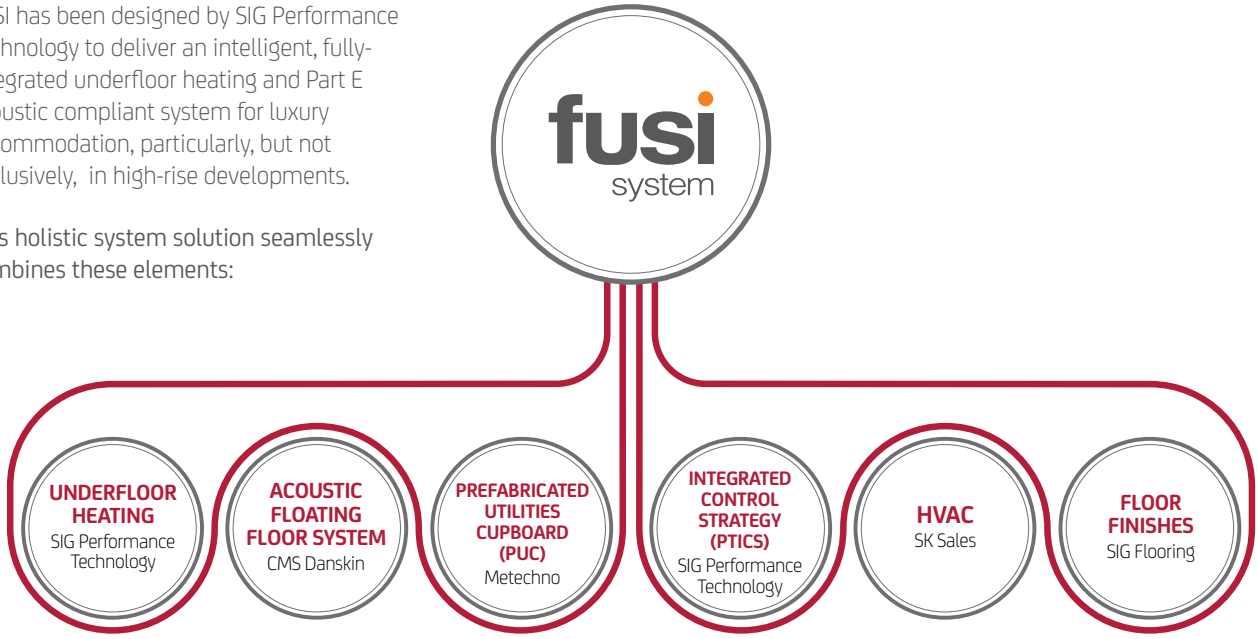
Please note: Washing machine shown for illustration purposes only and is not included as part of this system.

System Overview

Combining best in class performance with the latest technological advancements

FUSI has been designed by SIG Performance Technology to deliver an intelligent, fully-integrated underfloor heating and Part E acoustic compliant system for luxury accommodation, particularly, but not exclusively, in high-rise developments.

This holistic system solution seamlessly combines these elements:



Single Point Responsibility Solution

Our innovative specification-to-installation streamlined process

Just as the FUSI system is an exemplar of seamless integration, so too is the service SIG Performance Technology deliver. You deal with SIG Performance Technology, we co-ordinate with everything else.

By creating continuity from initial design and specification, final supply of system elements, to installation across all aspects of the FUSI system. The benefits SIG Performance Technology can offer include:

- Saving time
- Reducing costs and waste
- Cutting logistical complexity
- Preventing errors
- Conserving energy
- Controlling quality and consistency
- Eliminating conflicts
- Facilitating clear and rapid communication
- Coordinating on-site trades

TRULY BESPOKE

Because SIG Performance Technology are involved from inception to completion and across all components of the FUSI system, we are able to deliver truly bespoke solutions, providing:

- Design expertise
- Working drawings
- Cost appraisal

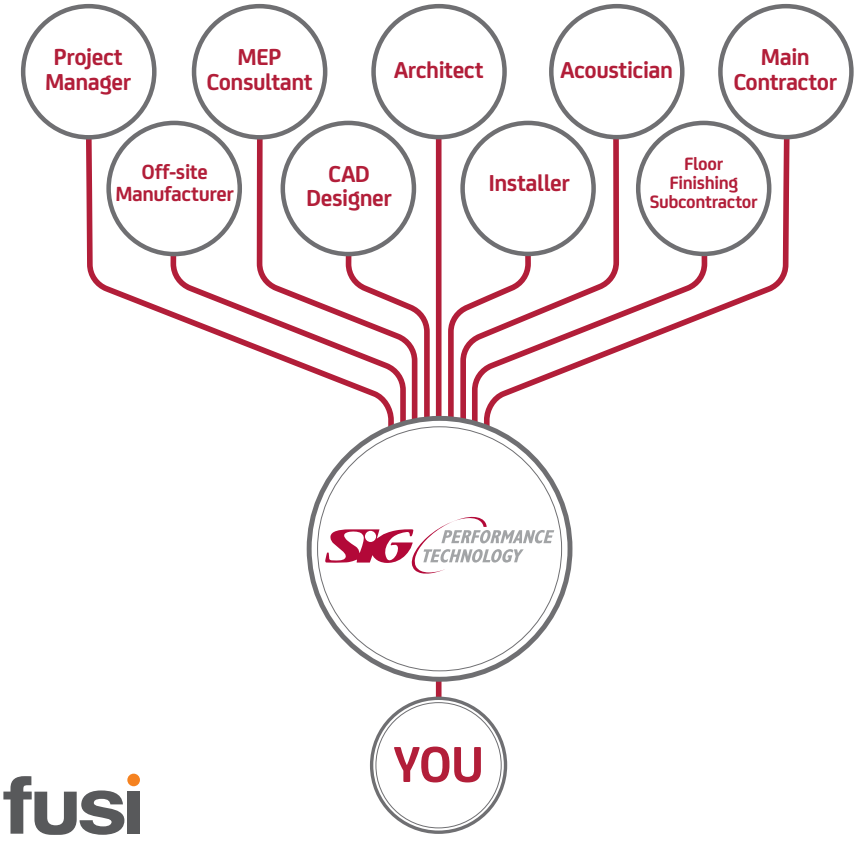
CONSTRUCTION 2025

An industry and government strategy to create a smart and sustainable industry that leads the world in lo-carbon and green construction exports.

- **Lower Costs:** 33% reduction in the initial cost of construction and the whole life cost of built assets.
- **Faster Delivery:** 50% reduction in the overall time, from inception to completion.
- **Lower emissions:** 50% reduction in greenhouse gas emissions.

FUSI is fully aligned with these targets, with our single-point responsibility approach ensuring lower costs, faster delivery and lower carbon footprint.

Furthermore, FUSI is not only a 'green' technology, but includes sustainable materials in its construction.



7 STEP INTEGRATED SOLUTION

- The right products
- Design expertise
- Meet the regulations
- Confidence in supply
- Registered installers
- Monitored installation
- Full guarantee

fusi system

Underfloor Heating Systems

A rapid growth sector in the construction industry

Please note: Packers are available in black only

According to independent analysis (AMA Research), by 2020 the value of the UFH market is forecast to have increased by around 15% compared to the market size in 2015.

The success of this technology is unsurprising. Underfloor heating systems provide a low maintenance and cost effective solution through radiated heat emission, delivering the most natural and comfortable form of heating with even surface temperatures.

When coupled with sustainable technology such as ground source heat pumps these systems can offer up to 30% energy savings compared to traditional forms of heating.

FUSI System

SIG Performance Technology bring together the latest in underfloor heating solutions and integrated control strategies to ensure both exceptional performance and continuous efficiency.

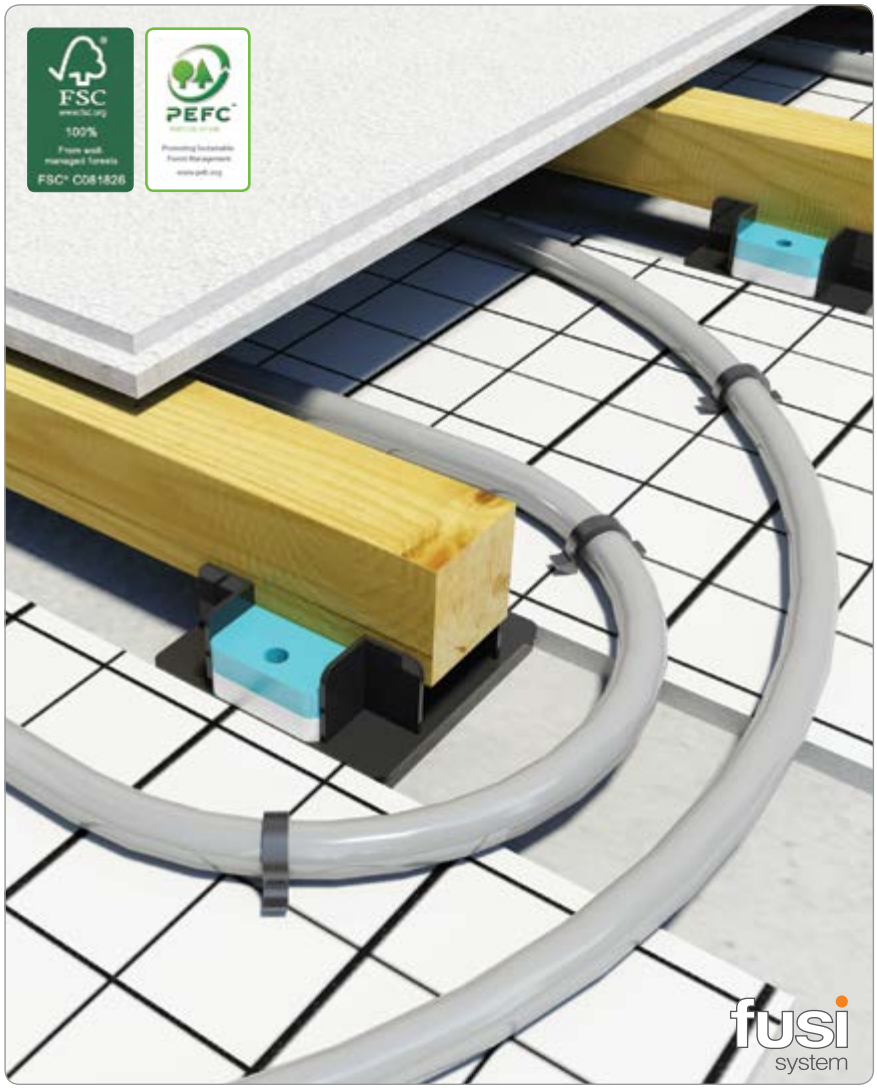
With our in-house design facility and our network of BPEC accredited installers, we offer support and technical guidance at every stage of the project, from specification to installation.

Features and Benefits

- Lower operating temperatures, to achieve greater energy efficiency
- Reduced maintenance
- Increased floor space
- Freedom of design

Acoustic Floating Floor System

This floating floor solution provides acoustics, levelling and a void for services



Please note: Packers are available in black only

It is very common for cast in-situ concrete floors and pre-cast concrete planks to be uneven. Both have cambers and deflection characteristics which necessitate the packing of timber floating floors to achieve a level floor finish.

CMS Danskin's patented range of Saddle Flooring Systems solve this problem by providing an easy and accurate method of levelling a timber floating floor over an uneven sub-floor without the need for levelling screeds.

Compliance with the Building Regulations

The sound insulation of party floors is a necessary requirement of the Building Regulations. Methods of satisfying the Regulations are set out in Approved Document E in England and Wales.

Performance

Data Sheets are available showing sound test information for the Saddle System in conjunction with different structural floor and ceiling combinations.

Features and Benefits

- FFT2 compliant for many Robust Detail floors
- Quick and easy levelling of uneven floors
- GWP of resilient layer is 0
- Effective reduction of impact and airborne sound
- Eliminates wet trades
- Weight saving compared to screeds can reduce foundation costs
- PEFC™ or FSC® chain of custody
- Provides void for services, insulation or underfloor heating

PT Integrated Control Strategy (PTICS)

Intelligent touch-screen interface for complete control

fusi system

Simplicity through control integration

Operated from a single touch-screen console or smart device*, **Performance Technology Integrated Control Strategy** (PTICS) enables end users to easily control the temperature of their living environment. The user can set parameters for different zones, allowing PTICS to regulate the system efficiently.

The system optimises demand and generation of energy, providing ideal comfort at minimal running costs, by interfacing with and controlling multiple energy sources, such as:

- Heat interface units
- Wet and electric underfloor heating
- Ventilation
- Radiators
- Fan coil units

* Additional module software required

Features and Benefits

- A single zone sensor controls heating and cooling demand with the benefit of floor temperature protection
- PTICS learns the thermal inertia of the zone, predicting heating/cooling requirements
- Pre-programmed maintenance regime operates UFH manifold pump and actuators after 72 hours of inactivity, ensuring continual operation of the system
- Individual zone, time and temperature scheduling including hot water, with historical log
- Finely calibrated software enables users to control costs by only producing heat precisely when and where it is needed

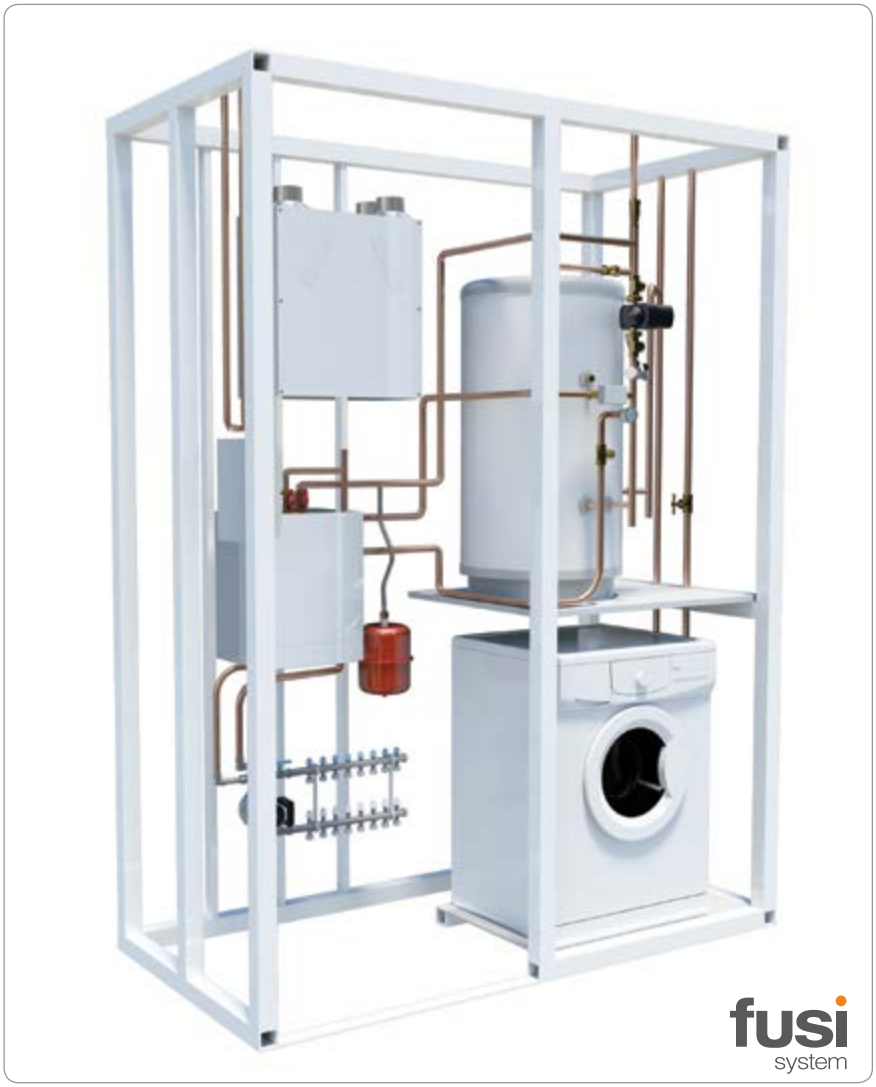
An Installer-Friendly Solution

The control system operates through a 12volt DC single BUS network for simple installation at minimal cost, making the system cable low-risk and installer-friendly.

PTICS is supplied pre-configured for installation by electrical contractor.

Prefabricated Utility Cupboard (PUC)

Manufactured off-site and delivered pre-tested, wired and commissioned



Please note: Washing machine not included

A bespoke solution, designed in BIM, the Metechno PUC provides a central interface point for mechanical, heating and ventilation configurations.

Capable of integrating any project arrangements, the Metechno PUC can be supplied direct or in collaboration with a Mechanical & Electrical contractor.

Designed to meet even the most challenging logistical requirements, the Metechno PUC is constructed to accommodate hoisting requirements and can be installed without the need for bespoke plant.

In-depth training is provided to support subcontractors and installers.

The Off-site Advantage

- Faster, as on-site and off-site activities occur in parallel
- Components assembled under quality-controlled conditions
- Production is not subject to on-site related delays (e.g. weather)
- Reduces on-site activity, minimising disruption and logistical demands
- Reduced waste due to standardised production
- DFMA (Design for Manufacture and Assembly) approach means products are designed for ease of production and installation
- Safer, as components are produced in factory conditions, without typical on-site risks (e.g. working at height)

Please note: Washing machine not included

Floor Finishes

Flooring Finishes & Protection

Our SIG Flooring division has a vast range of flooring products to suit all specification and budget requirements for every room in your building.

- Carpet
- Carpet tiles
- Luxury vinyl tile (LVT)
- Vinyl
- Engineering wood
- Laminate
- Safety flooring
- Underlay
- Screeds & adhesives

HVAC

Lo-Carbon MVHR Unit

Mechanical Ventilation Heat Recovery (MVHR) systems simultaneously extract and supply air to a property, filtering and recirculating heated or cooled air, 94% of which would otherwise have been lost. By maintaining a steady equilibrium, very low levels of energy are required to power the system, making this a cost-effective and environmentally friendly method of heating or cooling a property.

MVHR systems also help remove condensation, pollutants and irritants which might exacerbate conditions such as asthma.

MVHR systems produce only very low levels of noise compared to more traditional HVAC solutions and can be remotely operated using mobile phone apps or Building Management Systems.

Project overviews

Vantage Point Archway Tower

Essential Living invested more than £30 million to convert this 17 storey tower into 118 apartments.

A lightweight dry construction was required for the apartment flooring - leading to the specification of an acoustic timber floor structure which would also accommodate underfloor heating.

CMS Danskin provided a timber bearer with resilient saddle build-up, which was further enhanced with a top layer of Smartspan, a next generation flooring product with an almost thermally transparent calcium sulphate board, ideal for underfloor heating systems. The saddle system also served to level the existing uneven floor slab.

An integrated control system was used to create an energy-efficient solution and a user-friendly experience for residents.

Photo by Justin C

Stratford Halo

A regeneration of five blocks, including one of the highest residential towers in London.

The specification for the penthouse apartments included an acoustic timber floor with lightweight construction and sustainability in mind. CMS Danskin Acoustics delivered a levelling floor system using timber bearers and resilient saddles.

Focused on the targets for renewable energy and reduction of carbon emissions, a combined heat, power plant and biomass fuel system was specified. An integrated control system was selected to interface with the underfloor heating and FCU cooling requirements - which could all be controlled through a single touch-screen interface - ultimately delivering maximum comfort with minimum operating costs.

Photo by Loopzilla

Please note: The projects above involved CMS Danskin but not the FUSI System.

SIG Assured:

Items supplied by SIG have been considered, against the following areas of essential regulatory compliance:

- Safety Data Sheets (SDS) (e-SDS)
- Registration, Evaluation, Authorisation and Restriction of Chemicals (REACh)
- Declarations of Performance (DoP)/CE Marking (Conformité Européenne)
- Explosive Precursors
- European Timber Regulations (EUTR)

Whenever you see the SIG 'shield of assurance' you can be confident that your purchase is fully traceable and supported by legislative documentation which has been verified by our independent specialist appraisal partners.

www.sigassured.co.uk

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For advice, support and information about the FUSI System, please contact

0330 123 1756

www.sigpt.co.uk/fusi

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