Energy Centre

Brochure

Colloide

Contents

Energy Centre Systems
Designed by experts

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Why choose
Our Systems

Transform your approach to heat distribution with Colloide's bespoke energy centres. Our cutting-edge technology is meticulously designed to generate heat tailored for custom distribution to buildings or district heat networks, ensuring maximum efficiency and substantial cost savings.

At Colloide, we go beyond conventional solutions. Our energy centres can seamlessly incorporate Combined Heat and Power (CHP) units, offering not only heat but also electricity in an innovative low-carbon heat and power solution.

Our energy centres are innovatively designed with multiple energy sources, providing flexibility aligned with energy demand and cost-effectiveness. The diverse energy sources may include: Gas fired boilers, Biomass boilers, Heat pumps, Oil fired boilers and Combined Heat and Power (CHP) unit.

Applications include:

- Residential
- Commercial
- Industrial

Discover the full

Energy Centre System Process

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Colloide's energy centres epitomise efficiency. A combination of gas-fired boilers, biomass boilers, heat pumps, oil-fired boilers, and Combined Heat and Power (CHP) units initiates the energy generation process. This diverse energy matrix caters to both heat and electricity needs, forming the foundation of a versatile and sustainable system.

From thermal storage and advanced instrumentation to a meticulously designed pumping and pipework network, every component contributes to a streamlined process.

Waste energy finds purpose through integrated water chillers and air conditioning units, showcasing our commitment to sustainability. The centralised control system, at the core of operations, provides plant operators with real-time control and optimisation capabilities, ensuring efficiency in every aspect of energy generation and distribution. Experience an innovative energy distribution process engineered for the demands of the future.

Our
Experience

We have a wealth of experience in providing both new solutions and upgrading or expanding existing Energy Centre systems. Engineered for tomorrow, our systems adapt to changing energy demands, maximise efficiency and minimise your carbon footprint.

Examples of Customised Solutions

Bunhill District Heating Network for Islington Council

Colloide were employed as principal contractor for the innovative Bunhill Energy Centre and phase 2 of the district-wide heat network. This was a pioneering project that recovers heat from the London Underground and stands as the first of its kind in Europe.

The scheme was funded by Islington Council, Bunhill Ward, and the EU CELSIUS research project (managed by the GLA in London). The expansion of the heat network and the addition of heat production capacity benefited 454 homes initially, with the potential to reach an additional 1,000 homes.

The project encompassed an extended district heating network, a cutting-edge energy center, and the upgrade of 12 plant rooms. Notably, the District Heat Network seamlessly navigated through four live sites, including a new school, a multi-story housing development, and a versatile multi-use development.

The project featured installation of over 1600m of underground district heating pipework and navigating complex routes in London. The upgrade of 12 plant rooms was executed in two phases to accommodate heat from the district heating network, ensuring continuous operation. The Energy Centre integrated innovative technology, including heat pumps sourcing air from the London Underground, two CHPs for electricity and heat production, and a centralized SCADA system for overall control, marking a significant step towards a sustainable and efficient energy future.

Viking Energy Network Jarrow for South Tyneside Council

Colloide served as the principal contractor for the pioneering Viking Energy Network, a revolutionary renewable energy initiative extracting heat from the River Tyne and supplying it to 11 structures in Jarrow, South Tyneside.

This groundbreaking, multi-million-pound project, the first of its kind in the UK, offers significant advantages, annually reducing carbon emissions by approximately 1,035 tonnes and saving around half a million pounds in fuel costs.

Employing a synergy of three renewable technologies, including a river source heat pump, a 1-megawatt solar farm, and a combined heat and power (CHP) back-up system, the network minimizes reliance on fossil fuels and maximizes energy efficiency.

Colloide designed and constructed a state-of-the-art energy center at Jarrow Staithes, strategically positioned on the River Tyne's south bank, housing the water source heat pump and acting as the operational hub.

This facility efficiently extracts, elevates the temperature, and converts heat from the river into hot water. The hot water is distributed to connected buildings through a network of buried district heating pipes, meeting their heating needs with remarkable effectiveness.

The scheme aims to operate close to carbon-neutral during much of the summer.

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Our Capabilities Meet **Your Needs**

We understand each project is unique with bespoke requirements. That is why for over 20 years our capabilities have expanded to enable the delivery of a wide range of options.

Capabilities

Supply chain

We have sourced suppliers and developed a reliable relationship, with suppliers based across the UK and Ireland. Our supply chain is accredited to high Quality, Health and Safety and Environmental standards.

Location

We have the capability to deliver your requirements anywhere across the UK, Ireland, Scotland, and Wales.

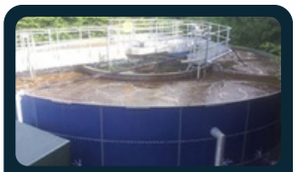
Availability

We have the capacity to engineer equipment on a short lead time, due to our ability to design and build off-site.

Flexibility & adaptability

Our standardised design can be adapted to meet bespoke requirements and many applications across diverse sectors.

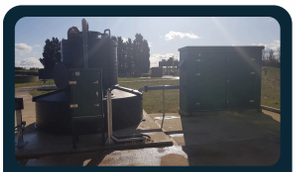
Our Product Range



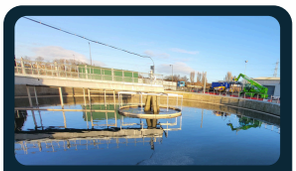
Activated Sludge Treatment

Anaerobic Digestion

Biomass Heating and Heat Pumps

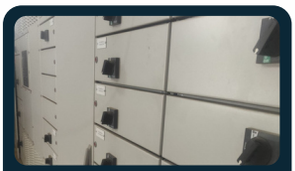


Chemical Dosing

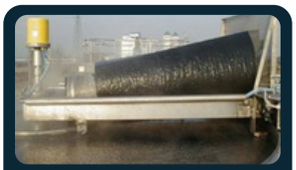


Bridge Scraper Systems

Clarifier Systems

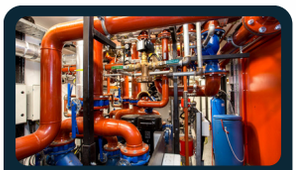


Control Systems



DAF

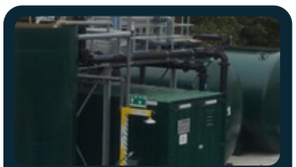
Deep Bed Sand Filters



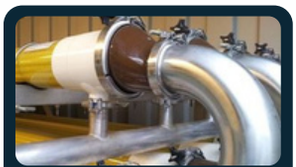
District Heating & Energy Centres

Dynamic Sand Filters

MBBR



MBR



Membrane Filtration

Multi Cell Media Filtration

Pressure Filters

Pumping Stations

SBR

Tekleen Filters

Rapid Gravity Filters

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