Enertech Group

Product Range Guide

Efficient heating
that won't cost the earth

CTC is an international manufacturer of innovative renewable heating solutions. For over 90 years our ranges of high performance products have warmed homes effectively and efficiently. Our complete range of renewable products provides everything needed to upgrade any heating system to the most modern and efficient levels, these include air to water and ground source heat pumps, biomass, wood pellet and log gasification boilers, intelligent thermal stores and dedicated controls systems.

Over the years we have enhanced the technology underpinning all CTC products to ensure that they maintain their unique operating features and the reliable and efficient performance that you would expect from a leading renewables supplier.

It is evident that the way we heat and power our homes and businesses in the UK is going to change as legislation begins to force out the older traditional technologies. The UK Government's long term objective is to produce more of the required energy from carbon free sources, therefore reducing demand on our power networks and achieving 15% generation from renewable sources by 2020.

We at CTC are well aware of this increasing need for change, and with our product ranges available today and in development for tomorrow, we are ensuring that the right technology is available to meet the requirements of the UK customers both now and in the future.

With a proven track record for reliability and performance, combined with unique features, we are confident that you will find a product to suit your application within the CTC range.

Product Overview

The basis behind all of our product designs is that they are all flexible heating solutions. Marketed under 'The EnergyFlex' concept this allows multiple heat sources to be successfully integrated and future-proof any installation. At the heart of the EnergyFlex concept is the EcoZenith, our innovative, high performance thermal store incorporating intelligent control.

This concept is based on an environmentally friendly, economical and flexible heating system with the CTC EcoZenith thermal store at the heart of the installation. By then connecting this to one of our heat pumps or biomass boilers you are prepared for the future.

By installing EcoZenith your heating system will prove to be both efficient and effective. In a world of changing energy supply, the flexibility of EnergyFlex allows you to ensure that your system is ready and able to adapt to these future changes.

EnergyFlex is pre-programmed to take control of all your heating equipment both now and in the future. All you need to do is connect, control, enjoy and save money.

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EcoAir 400

Air Source Heat Pump Range

CTC's EcoAir 400 range of air source heat pumps offer an extremely efficient solution for space heating and hot water generation helping to reduce heating costs by as much as 70%. Absorbing energy from the air and using it to generate heat for all types of domestic property. The unit can operate at outside air temperatures of -22˚C and still generate useful energy. Stylish, discrete and designed to fit into most external environments.

Key features

- High efficiency with a COP of over 4.6 at A7/W35
- Electronic expansion valve
- On demand defrosting
- Operates in temperatures as low as -22˚C
- Produces DHW temperatures up to 65˚C
- Significantly reduces heating costs
- Wide range of outputs up to 20kW
- Low noise operation
- Built in Smart Start technology to reduce peak currents
- Condensation tray with built in heater

TECHNICAL		406	408	410	415	420
Energy efficiency class ERP	Rating	A+	A+	A+	A+	A+
Electrical power		230V 1 Phase & 400V 3 Phase			400V 3 Phase	
Input *	kW	1.3/1.3/1.3	1.7/1.6/1.6	2.5/2.4/2.3	3.5/3.4/3.3	4.1/3.9/3.9
Output *	kW	6.2/4.7/3.7	7.7/6.0/4.8	11.6/8.9/7.1	15.9/12.0/10.0	17.6/13.9/11.5
COP *		4.6/3.5/2.9	4.6/3.6/3.0	4.8/3.6/3.0	4.5/3.6/3.0	4.3/3.5/3.0
Rated current 230/400	A	10.3/4.0	12.4/4.9	18.8/7.5	10	11.8
Max operating pressure	bar			2.5		
Air volume	m3/h	2500	2800	4100	5400	6200
Fan power	w	25	37	60	140	170
Water content	Ltr	1.9	2.4	2.8	3.9	4.5
Dimensions (HxWxD)	mm	1080 x 1245 x 545			1180 x 1375 x 610	
Weight	kg	120	126	180	187	190
Noise	dB(A)	31	33	33	39	42

* Note at 35˚C and +7/+2/-7 outside air temperature

ENERGY FLEX

EcoHeat 400

Ground Source Heat Pump Range

CTC's EcoHeat 400 range of ground source heat pumps are one of the quietest and most efficient models of its type available. By housing the refrigerant and compressor components in a sound proofed section exceptionally quiet operation is a standard. Incorporating a 220 litre thermal store, the unit provides heating and DHW from a single compact unit. Taking energy from the ground performance is guaranteed all year round no matter the outside temperature.

Key features

- High efficiency with a COP of 5.0
- Stylish white casing
- Inbuilt colour touch screen control interface
- Electronic expansion valve
- Heating and DHW from a single compact unit
- Solar compatible
- Produces DHW temperatures up to 65˚C
- Significantly reduces heating costs
- Wide range of outputs up to 12kW
- Low noise operation
- 2 heating zone control

TECHNICAL		406	408	410	412
Energy efficiency class ERP	Rating	A+	A++	A++	A++
Electrical power			230V 1 Phase		
Output (0/35 0/45 0/55)*	kW	5.9/5.5/5.2	8.2/7.9/7.5	9.9/9.5/9.3	11.7/11.2/10.9
COP (0/35 0/45 0/55)*		4.6/3.5/2.7	4.6/3.6/3.0	4.6/3.6/3.0	4.6/3.6/3.0
Output (5/35 5/45 5/55)*	kW	6.8/6.5/6.0	9.4/9.0/8.6	11.4/11.0/10.6	13.5/12.9/12.6
COP (5/35 5/45 5/55)*		5.2/4.1/3.2	5.0/4.0/3.3	5.2/4.1/3.3	5.1/4.1/3.3
Rated operating current	A	13	18.5	20.6	25
Max operating pressure DHW	bar		2.5		
Maximum DHW temperature	˚C		110		
Water volume	Ltr	2.3	2.9	2.9	3.4
Water store content	Ltr		223		
Dimensions (HxWxD)	mm		1904 x 595 x 672		
Weight	kg	267	270	272	279
IP rating			IPX1		
Noise	dB(A)	44.9	43.9	46	47.2

*EN14511:2007 including heating medium pump and brine pump.
Data for 230V single phase product illustrated. Data for 400V three phase units also available.

EcoPart 400

Ground Source Heat Pump Range

CTC's EcoPart 400 range of compact ground source heat pumps are one of the quietest and most efficient models of its type available. Designed on the same platform as the EcoHeat range, high performance and quiet operation comes as standard. Taking energy from the ground or water, the performance of the range is guaranteed all year round no matter what the outside temperature.

Key features

- High efficiency with a COP of 5.0
- Stylish white casing
- Compact size
- Low energy pumps available for both brine and charge circuits
- Electronic expansion valve
- Significantly reduces heating costs
- Wide range of outputs up to 17kW
- Low noise operation

TECHNICAL		406	408	410	412	414
Energy efficiency class ERP	Rating	A++	A++	A++	A++	A++
Electrical power				230V 1Phase		
Output (0/35 0/45 0/55)*	kW	5.9/5.5/5.2	8.2/7.9/7.5	9.9/9.5/9.3	11.7/11.2/11.0	14.5/13.9/13.4
COP (0/35 0/45 0/55)*		4.6/3.5/2.7	4.6/3.6/3.0	4.6/3.7/3.0	4.6/3.6/3.0	4.5/3.6/2.9
Output (5/35 5/45 5/55)*	kW	6.8/6.5/6.1	9.4/9.0/8.6	11.4/11,0/10.6	13.5/13.0/12.6	16.5/16.0/15.3
COP (5/35 5/45 5/55)*		5.2/4.1/3.2	5.0/4.0/3.3	5.2/4.1/3.3	5.1/4.1/3.3	5.1/4.1/3.3
Rated operating current	A	14.0	19.5	21.6	27.1	33.2
Max operating current	A	13.0	18.5	20.6	25	27.1
High pressure switch rating	bar			31		
Water volume (brine)	Ltr	2.3	2.9	2.9	3.4	4.1
Heating minimum flow 0/35	L/sec	0.14	0,20	0.24	0.28	0.34
Dimensions (HxWxD)	mm			760 x 600 x 672		
Weight	kg	138	143	148	164	164
IP Class				IPX1		
Noise	dB(A)	43.0	42.5	48.5	50.3	53

* Note as per EN14511 including heating medium pump and brine pump.
Data for 230V single phase product illustrated. Data for 400V three phase units also available.

EcoPart XL

Ground Source Heat Pump Range

CTC's EcoPart XL range of compact ground source heat pumps are one of the quietest and most efficient models of its type available. Utilising 2 separate cooling modules housed in the same casing the unit is able to increase output in 3 stages. Modulating operation matches output more closely to system requirements. Taking energy from the ground or water, the performance of the range is guaranteed all year round no matter what the outside temperature.

Key features

- High efficiency with a COP of 5.0
- Stylish white casing
- Pro range offers Inbuilt colour touch screen control interface
- Compact size
- Low energy pumps available for both brine and charge circuits
- Significantly reduces heating costs
- Wide range of outputs up to 35kW
- Low noise operation

TECHNICAL		425	430	435	425	430
Energy efficiency class ERP	Rating	A++	A++	A++	A++	A++
Electrical power			400V 3 Phase		230V 1 Phase	
Output (0/35 0/45 0/55)*	kW	24.9/24.0/23.4	28.5/27.4/26.8	33.5/32.3/31.7	24.4/24.4/22.7	28.9/27.8/26.8
COP (0/35 0/45 0/55)*		4.5/3.6/3.1	4.5/3.6/3.1	4.5/3.6/3.1	4.5/3.6/2.9	4.5/3.6/2.9
Output (5/35 5/45 5/55)*	kW	28.7/27.5/26.8	32.8/31.4/30.7	38.5/36.8/36.3	27.9/26.9/25.8	32.9/31.9/30.5
COP (5/35 5/45 5/55)*		5.0/4.0/3.4	5.0/4.0/3.4	5.0/4.0/3.4	5.1/4.1/3.3	5.1/4.1/3.3
Rated operating current	A	22.2	24.6	28	33.5	38
Max operating current	A	16.7	19.7	23	47.7	54.2
High pressure switch rating	bar			31		
Water volume (brine)	Ltr	6.97	7.47	8.14	6.97	8.14
Heating nominal flow 0/35	Ltr	1.2	1.37	1.62	1.2	1.37
Dimensions (HxWxD)	mm			1760 x 596 x 680		
Weight	kg	334	354	359	334	354
IP Class				IPX1.1		
Noise	dB(A)	45.6	45.4	45.6	45.6	45.4

* Note as per EN14511 including heating medium pump and brine pump.

EcoFlex

Wood Pellet Boiler

CTC's EcoFlex boiler is a highly efficient domestic wood pellet boiler which has been designed to offer easy installation and reliable operation. Sophisticated controls incorporating automatic ignition, indoor and outdoor sensors with a fully automatic pellet feed system. Two stage burner operation optimises performance resulting in boiler efficiencies as high as 92%. Separate connection for heating and DHW make easy installation.

Key features

- High boiler efficiency of 92%
- Stylish grey casing
- Separate heating and DHW connections
- Triple pass heat exchanger
- Ease of maintenance
- Insulated casing
- Integrated control system

TECHNICAL		EcoFlex
Rated output	kW	14.6
Rated input	kW	15.8
Boiler efficiency	%	92
Flue gas temperature	°C	123
Output range	kW	5 to 15
Preset output stages	kW	15/09/00
Water content	Litre	150
Max operating pressure	bar	2.5
Max operating temp	°C	110
Dimensions (HxWxD)	mm	1450 x 600 x 990
Weight	kg	265
Electrical data		230V

V22/V40 Lambda

Wood Gasification Boiler

CTC's V22/V40 boiler has been developed to provide the highest possible efficiencies. The thermal bed and vortex concept of the fully lined combustion chamber result in operating efficiencies as high as 92% and very low emissions. Air flow is mechanically fed to ensure optimum performance at all times. Cleaning of the combustion chamber can be carried out using the external lever, reducing boiler down time.

Key features

- High boiler efficiency of 92%
- 2 models outputs 22 and 40kW
- Low emissions
- Stylish grey casing
- Alternate door handing (left or right)
- Ceramic lined heat exchanger
- Ease of maintenance
- Insulated casing
- Integrated control system

TECHNICAL		V22 Lambda	V40 Lambda
Rated output	kW	22	40
Boiler efficiency	%	91	92
Chamber volume (fuel)	Ltr	138	138
Chamber depth (fuel)	mm	549mm	
Max log length	mm	500mm	
Water content	litre	105	114
Flow & return	inch	1¼	1¼
Safety valve connection	mm	22	
Max working pressure	bar	3	
Flue connection	mm	150	
Buffer volume	Ltr	1500-2000	2000-3000
Dimensions (HxWxD)	mm	1450 x 596 x 1110	
Weight	kg	460	470

EcoZenith i250

Intelligent Thermal Store

The CTC EcoZenith i250 is the next generation in compact intelligent thermal store design. Provided in 2 model sizes the units are finished in a white design for a smart clean appearance. The flexible system tank provides 15kW of power input and a built in heat pump control designed to operate with both the EcoPart and EcoAir 400 ranges. Our solution produces hot water as it is needed.

Key features

- Compact hot water and heating storage
- Large hot water delivery from a compact store
- Connection to air and ground source heat pump
- Weather compensation control
- 223 Litre storage
- Solar compatible
- 2 heating zone control
- Integrates with other heating sources
- Ease of installation
- 4.3 inch touch screen
- Optimises seasonal COP

TECHNICAL		i250L	i250H
Electrical data		230V 1 phase/400V 3 phase	
Dimensions (HxWxD)	mm	1654 x 595 x 672	1904 x 595 x 672
Required room height	mm	1696	1925
Weight (empty)	kg	167	182
Water volume	Ltr	223	
DHW type/volume	Ltr	copper finned/5.7 litre	
Max operating press/temp	bar / °C	2.5bar/100 °C	
IP class		IPX1	
Voltage heating elements		3x400V 9+6 (3kW) / 1x230V 9+3kW	
Touchscreen	inch	4.3	

EcoZenith i550

Intelligent Thermal Store

The CTC EcoZenith i550 Pro is an all-in-one heat storage and distribution hub with a fully integrated intelligent control at its heart. As part of the EnergyFlex range the EcoZenith will actively manage all of the available heat sources as well as controlling 3 independent heating zones. Designed to be the centre of your heating needs and future proofing your property no matter what changes you make to your heat generation.

Key features

- Designed for integration into all common heating systems
- Provides hot water and heating from a single unit
- Produces up to 40 l/min of DHW
- Secondary return connection for DHW circuit
- Extra hot water and control function
- Anti-Legionella protection controller
- Controls up to 3 weather compensated heating zones
- Built in electric back up heaters
- 90mm of polyurethane insulation to minimise heat loss
- Available in single and three phase
- Control of multi heat sources

TECHNICAL		i550 Pro	i530	i510
Electrical data		230V 1 phase/400V 3 phase		
Delivery dimensions (HxWxD)	mm	1700 x 750 x 950		
Installed dimensions (HxWxD)	mm	1700 x 886 x 1067		
Weight	kg	256		
Water volume	Ltr	540		550
DHW coil volume	Ltr	11.4		No
Max operating pressure - tank	bar	2.5		
Max operating pressure - coil	bar	9		
Intelligent control fitted		Yes	No	
Insulation	mm	90		

EcoLogic

Intelligent Control

CTC's EcoLogic Pro/Family is a unique control system the has been designed to monitor and regulate the full CTC range of heat pumps, solar panels, additional heat sources, buffer tanks, pools and cooling systems. Developed with a colour touch screen display, and easy to understand visual prompts, setting and adjusting system parameters couldn't be easier, making the Intelligent Control a logical choice.

Key features

- Ability to control up to 10 CTC heat pumps
- 4.3 inch colour touch screen interface
- Ease of mounting
- Supplied with 5 metre cable
- Room, outdoor and flow sensor supplied
- Automatic product recognition
- Can be upgraded to support SMS remote operation
- Six systems to choose from
- Ability to download operating data by USB port

TECHNICAL		EcoLogic
Art. number		56 58888 302
Electrical data		230V 1 phase
Maximum fuse size	A	10
Display	in	4.3 colour
Measurements (HxWxD)		
Display	mm	160 x 159 x 28.1
Connection box	mm	283 x 479 x 121

Accessories

Range of Accessories

CTC can offer a wide range of accessories to enhance the installation of the products we supply. All accessory components are fully designed before being selected, not only do they complement the installation of the CTC equipment but also improve the performance. From simple wireless room sensors to the more complicated SMS system for remote monitoring of the operation we have the right product to meet your requirements.

Key features

- Room sensor
- Solar sensor
- Diverting valve pack
- Charge pump pack
- Thermostatic mixer valve
- SMS communication module
- Flow & return sensors
- Bivalent valve
- Wireless sensors

ACCESSORIES	CTC Energy Flex 550	250	EL	EH
Room sensor	•	•	•	•
Solar sensor	•			
Diverting valve pack	•			
Charge pump pack	•			
Thermostatic mixer valve		•		•
SMS module	•	•	•	•
Flow & return sensor	•	•	•	•
Bivalent valve	•			
Wireless sensor	•		•	•

You think the outside is smart? You should see the inside...

We have been developing heating products for more than 90 years. In area after area, we have been pioneers with new technology and greater performance. Our new series of heat pumps for bedrock are no exception.

In every aspect, you will find well thought out, intelligent solutions that provide better comfort, heat economy and easier installation.

Unbeatable hot water capacity. More than 600 litres of hot water at 40˚C.

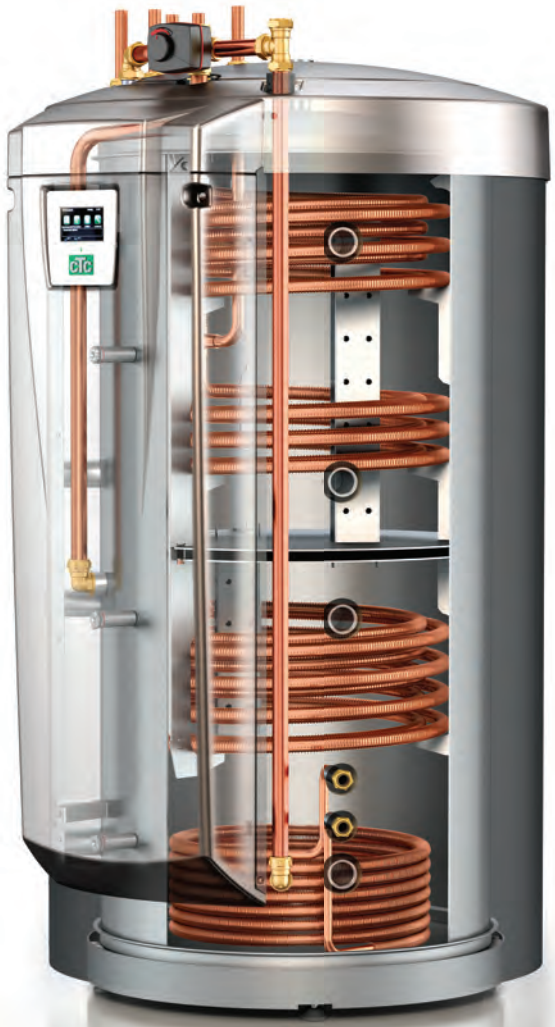
No additional costs for control, extra solar tank or boiler.

Many installations require a control function that limits the electrical output. This is standard on the new CTC EcoZenith i550.

Future-proof - connect and control now or in the future:

- Heat pumps: bedrock, air/water or both.
- Firewood supplement: wood burner or water-jacketed stove.
- Solar panels.
- Pool.

Spacious - more than 500 litres - but unusually compact. Can be put into a space with a regular ceiling height. Fits through standard doors.



No ordinary insulation (90mm moulded polyurethane). Minimises heat loss resulting in lower energy costs.

Controlling a heating system is about comfort, low energy consumption and safety. The built-in control:

- Prioritises the most economical way of heating the house and the hot water.
- Controls and monitors every part of the house.
- Automatically senses how the heating system is put together and the heat sources that are connected.

Hot water that is completely safe from legionella. The hot water is never stationary, unlike a standard hot water heater where the temperature must be sufficiently high to kill Legionella bacteria.

The automated bivalent mixing valve allocates even heat to the radiator system at all times. The technology is unique; eliminating clicks in heating pipes and providing comfortable heating.

Large clear touch screen. A choice of languages and simple symbols make it easy to retrieve a wealth of operating information and to adjust the settings.

A built-in electrical immersion heater provides additional heating.

A well-dimensioned finned coil made of copper produces fresh hot water at all times. A low temperature can be maintained without the risk of Legionella bacteria.

The adjustable-speed heat medium pump transports the cold water from the heating system to the condenser where the energy from the bedrock/ground/lake is drawn up and directed towards the heat pump.

Fresh water supply: The cold water is directed down to the lower part of the coil.

In the upper part of the coil the water is heated to the desired temperature.

Pool connection as standard.

Control and monitor remotely with accessories that you connect to the internet or mobile network.

A separate, soundproof device for compressors and refrigeration components reduces noise.

in the lower part of the coil the hot water is pre-heated by the hot water from the heat pump.

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Enertech Group

APPROVED PRODUCT

All information contained herein is based on the latest product information available at the time of printing. While Enertech Group makes all reasonable efforts to provide accurate information, we also maintain the right to improve upon our products at any time.

ENERGY FLEX

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