

## Clearly Hybrid system Technical overview

### Want to find out more about how the award winning Clearly Hybrid system could help grow your business?

We're looking for talented installers across the country who want to differentiate and grow their business by becoming a Glow-worm Clearly Hybrid Installer. If you're an installer looking to develop your green credentials and offer your customers a unique, market leading heating and hot water solution, which allows them to benefit from cost effective heating, a lower carbon footprint and complete reliability, with all with the familiarity of a traditional heating system, then we want to hear from you.

Get in touch to find out more about how becoming a Clearly Hybrid installer could be the start of something big.

**Call: 01773 596092 or  
email: [info@glow-worm.co.uk](mailto:info@glow-worm.co.uk)  
to find out more**



Clearly Hybrid  
Winner of  
Green Invention of the Year



Clearly Hybrid  
Highly Commended Product  
Innovation of the Year

#### Glow-worm

Nottingham Road  
Belper  
Derbyshire  
DE56 1JT

Head Office:  
01773 824 639

Literature:  
01773 596 105

After Sales Service:  
01773 596 510

Technical Advice:  
01773 828 300  
(Boilers)  
08447 361 143  
(Renewables)

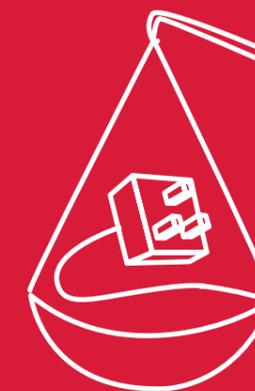
Training:  
01773 596 156



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**Glow-worm**



Renewables Awards

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# Clearly Hybrid - The hybrid renewable heating system that thinks for itself

Award winning, market leading technology, now made even better

In today's rapidly developing market, saving on fuel bills and reducing carbon footprints are high up on every homeowner's wish list. This is why Glow-worm continually work to provide the very best heating and hot water systems, using the latest technology and expertise to create heating solutions which not only fit the bill today, but also look after tomorrow.

Over 75 years knowledge and experience of bringing market leading heating and hot water systems to homes across the country, means we've learnt a thing or two about delivering innovative and reliable products that are straightforward, dependable and designed with you in mind.

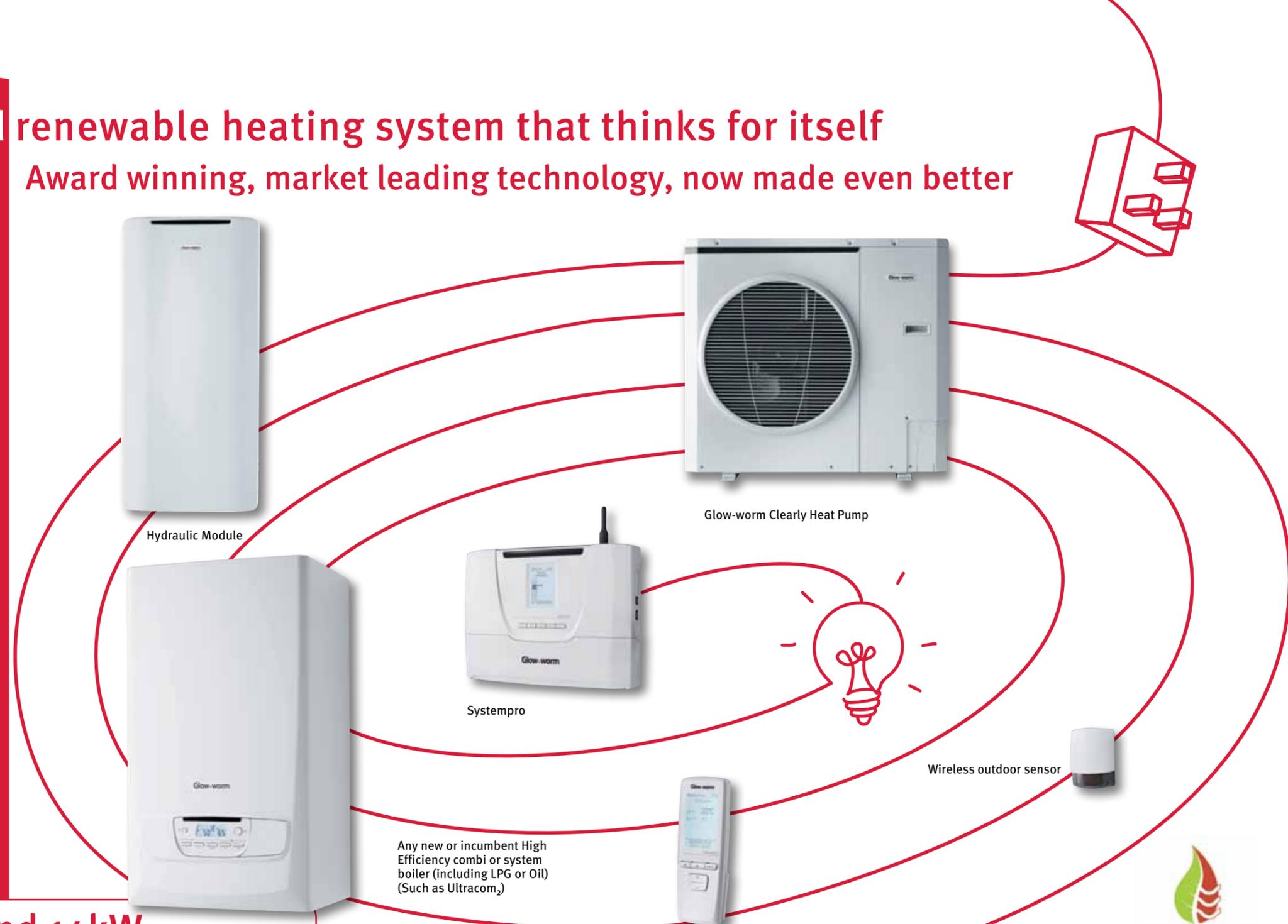
## Now we're taking the next step...

Clearly Hybrid is the UK's first hybrid renewable domestic heating and hot water system which uses advanced controls to select the most cost effective method of heating at any time.

The award winning Clearly Hybrid system now combines the use of a Glow-worm air to water heat pump with almost any High Efficiency boiler.\* The heating system automatically selects when to use low carbon renewable energy from the heat pump or traditional energy from the High Efficiency boiler, to always deliver cost effective heating and hot water to your customers.

The Clearly Hybrid system provides a perfect solution for consumers and organisations that are looking to use new, yet proven, technologies to deliver cost effective heating and reduce their carbon footprint.

\*Regular Heat Only boilers will need to be converted to a sealed system.



## NEW - Clearly Hybrid 7, 12 and 14kW

The new Clearly Hybrid 7, 12 and 14kW systems utilise the new Clearly Hybrid Universal module which extends the flexibility of the Clearly Hybrid system, making it suitable for an even wider range of installations. Using the new Hydraulic module, Glow-worm's Clearly Hybrid 7, 12 and 14kW systems can also utilise almost any new or existing boiler, creating a great retrofit solution. The new Hydraulic module can also be used with the 5kW system if required, to enable use with any boiler.\*

\* Regular Heat Only boilers will need to be converted to a sealed system

### NEW Additional benefits of Clearly Hybrid Universal Hydraulic Module

- **Suitable for almost all domestic properties**
  - range available with higher heat pump outputs and includes Glow-worm's improved next generation, inverter compressor models
- **Great for retrofit heating system upgrade**
  - system compatibility with almost any new or incumbent High Efficiency boiler\* (including oil and LPG models).
- **Provides peace of mind against uncertainty of LPG/oil supply in winter months**
  - constant heat and heat water provided by using either boiler or electric heat pump
- **Lowest cost heating and hot water**
  - improved next generation system intelligence means heat pump & boiler can be used together to increase efficiencies

### Key benefits of Clearly Hybrid system

- Automatically chooses the most efficient fuel source - cost effective operation and lower carbon footprint
- One complete package: heat pump, hydraulic module and control - easy to install and commission
- Use with any new Glow-worm High Efficiency boiler: combi, system and regular heat only models\*\*
- Full system with clear and simple operating controls
- Can achieve over 40% carbon savings\*
- Can reduce energy bills by over 30%\*

\*When Clearly Hybrid system is used to replace a standard efficiency boiler  
\*\*Regular Heat Only boilers will need to be converted to a sealed system



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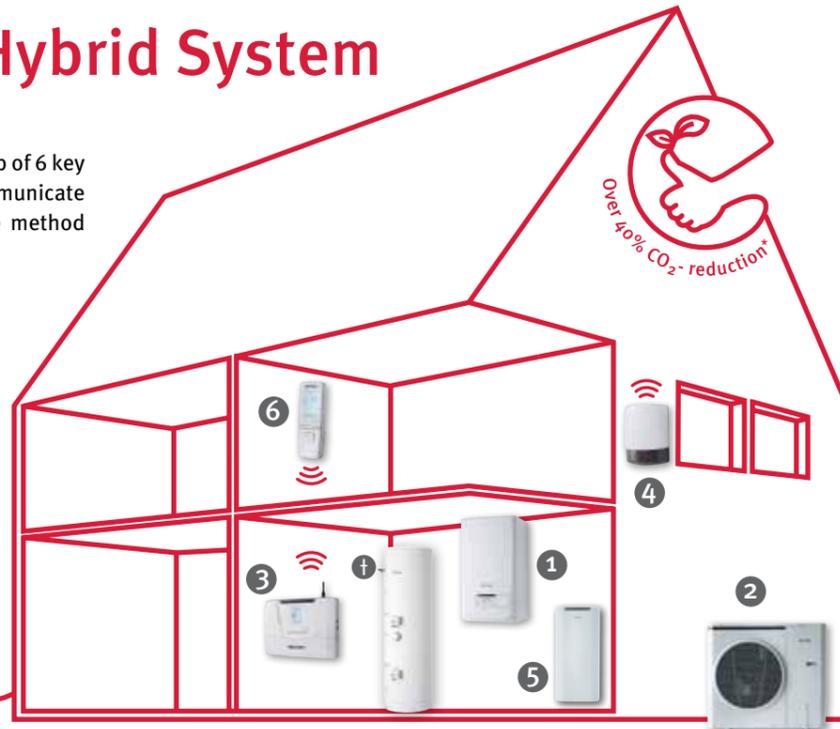


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# The Clearly Hybrid System

The Clearly Hybrid System is made up of 6 key elements which intelligently communicate to always select the most effective method of heating.

Over 40% CO<sub>2</sub> reduction\*



\* Possible when replacing an old standard efficiency boiler

† Glow-worm hot water cylinder  
Clearly Hybrid is compatible with Glow-worm's range of stainless steel Fluorocyl<sub>2</sub> hot water cylinders (sold separately), when using a system or regular heat only boiler.



## 1 High Efficiency boiler

(For example Glow-worm's Ultracom<sub>2</sub>)

The Clearly Hybrid system is now compatible with almost any new or incumbent High Efficiency boiler\* (including LPG or oil). The High Efficiency boiler provides cost effective support to the system whenever gas is the preferred fuel source for use, whilst also ensuring comfort and familiarity to the homeowner.

Clearly Hybrid can now also be installed with an incumbent boiler

**Key Features** (of Glow-worm's Ultracom<sub>2</sub>)

- High Efficiency boiler providing Domestic Hot Water and heating support
- Provides security of traditional heating system to homeowner
- Wide range of combi and system models available with outputs ranging between 12kW - 35kW
- Wide choice of flue options available
- Straightforward to install and easy to use

\*Regular Heat Only boilers will need to be converted to a sealed system



## 2 Glow-worm Clearly Heat Pump

With a choice of 5, 7, 12 and 14kW models available Glow-worm's impressive range of MCS accredited air to water heat pumps offer high CoPs and are ultra quiet in operation.

The heat pump unit communicates with the rest of the Clearly Hybrid system to provide heating whenever it is most cost effective to do so. Glow-worm's Clearly Heat Pumps are also incredibly straightforward to install with no F Gas qualifications required and no glycol needed in the central heating circuit.

**Key features**

- Slimline monobloc unit
- 7, 12, and 14kW models feature Inverter compressor technology
- High COP - up to 4.06\*
- Uses non ozone depleting R410a refrigerant
- No F-gas qualification needed to install
- Extremely quiet – modulating DC fan speed of 180-820rpm
- All components easily accessible for servicing/replacement

\*Measured at air temperature 7°C and water at 35°C



## 3 Systempro

The Systempro provides the intelligence behind the Clearly Hybrid system, and continuously communicates with each element of the heating system to optimise it for energy use, and select the most cost efficient method of heating. The Systempro acts as a central installer interface, where a homeowner's energy tariff ratio is programmed, and maintenance menus, fault history, system parameters etc can all be accessed. Following installation, there is no need for the end user to use this part of the system, unless they want to update their energy tariffs.

**Key features**

- The 'brains' of the system
- Central installer interface
- No need for end user interaction
- Uses intelligent technology to coordinate entire Clearly Hybrid system
- Can be used to control a multi-zone system



## 4 Wireless outdoor sensor

The Glow-worm wireless outdoor sensor intelligently communicates the outside temperature to the Systempro to provide weather compensated flow temperatures for maximum efficiency. The sensor is small and discrete, and is paired with the Systempro on installation meaning no external wiring is required between the unit and the rest of the system.

**Key features**

- Works on indirect sunlight which charges the in-built PV cells
- Can add an additional 3% points onto SAP efficiency of the system
- No batteries required meaning minimal maintenance
- Simple and quick to install



## 5 Hydraulic Module

Available in two models depending on the size of your heat pump and the type of boiler used.

This houses the circulating pump which transfers the heat generated by the heat pump into the heating system. The Hydraulic Module also separates the heat pump circuit from the central heating circuit meaning that you don't need to fill the whole system with glycol. The Hydraulic Module in itself is compact and easy to site, as no separate expansion vessel or additional buffer vessel are required.

**Key features**

- Stylish indoor unit; designed to be housed close to the boiler
- Separates the heat pump circuit from the main CH system eliminating the need for glycol antifreeze in the CH circuit



## 6 Climapro<sub>2</sub> RF

Glow-worm's most intuitive and user friendly control; Climapro<sub>2</sub> RF is the main point of interaction with the Clearly Hybrid system for the homeowner. The handheld control enables your customers to simply and quickly programme their specific heating and hot water requirements in detail, from the comfort of their armchair.

**Key features**

- Two channel wireless programmable room thermostat for complete time and temperature control of central heating and domestic hot water
- Large backlit display
- Simple handheld unit which can be wall mounted or portable within the home
- Provides room and weather compensation when combined with wireless outdoor sensor

# Clearly Hybrid system specification

Description	Unit	5	7	12	14
Min. operational range (in heating)	°C	-7	-20	-20	-20
Max. operational range (in heating)	°C	35	30	30	30
<b>Dimensions</b>					
Height	mm	935	821	1363	1363
Width	mm	880	908	908	908
Depth	mm	345	326	326	326
Ø Water circuit connections	"	1	1	1	1
Nett total weight	kg	82.5	71	105	130
Sound power level : overall exterior noise (according to EN 12102 and EN ISO 9614-1)	dBA	62.6	64	67	68

Specifications, with floor heating					
(flow: 35°C, return: 30°C, outside dry temperature (wet): 7 (6)°C)					
Heating output	kW	4.70	7.20	11.90	14.50
Power input	kW	1.26	1.82	3.01	3.6
Rated electrical current	A	5.48	8	13	15.6
COP* A7(6) W35-30		3.73	3.96	3.94	4.06

Specifications, with radiators					
(flow: 45°C, return: 40°C, outside dry temperature (wet) 7 (6)°C)					
Heating output	kW	4.41	7.4	12.9	14
Power input	kW	1.46	2.32	4.2	4.4
Rated electrical current	A	6.34	10	18.5	19
COP* A7(6) W45-40		3.02	3.18	3.03	3.21

Refrigerant circuit					
Type of refrigerant		R-410A			
Quantity of refrigerant	kg	1.8	1.81	2.485	3.385
Type of compressor		Rotary			
Type of oil		Polyolester			
Type of regulator		Electronic			
Fan speed	rpm	180	200	250	200
		-660	-680	750	-820
Maximum operating pressure (PS) in low pressure	bar	34	20.5	20.5	20.5
	Pa	34 x 10 <sup>5</sup>	20.5 x 10 <sup>5</sup>	20.5 x 10 <sup>5</sup>	20.5 x 10 <sup>5</sup>
Maximum operating pressure (PS) in high pressure	bar	43.2	45	45	45
	Pa	43.2 x 10 <sup>5</sup>	45 x 10 <sup>5</sup>	45 x 10 <sup>5</sup>	45 x 10 <sup>5</sup>

## Clearly Hybrid pack

	Pack Codes
Clearly Hybrid 5kW pack (Used with a new Glow-worm boiler)	0020114862
Clearly Hybrid 5kW pack (Used with a new or existing boiler)	0010014412
Clearly Hybrid 7kW pack (Used with a new or existing boiler)	0010013616
Clearly Hybrid 12kW pack (Used with a new or existing boiler)	0010013617
Clearly Hybrid 14kW pack (Used with a new or existing boiler)	0010013618

Description	Unit	5	7	12	14
<b>Heat pump circuit</b>					
Minimum supply pressure	bar	1	0.5	0.5	0.5
	Pa	1 x 10 <sup>5</sup>	50 x 10 <sup>3</sup>	50 x 10 <sup>3</sup>	50 x 10 <sup>3</sup>
Maximum supply pressure	bar	3	3	3	3
	Pa	3 x 10 <sup>5</sup>	3 x 10 <sup>5</sup>	3 x 10 <sup>5</sup>	3 x 10 <sup>5</sup>
Minimum static pressure	bar	1	0.3	0.3	0.3
	Pa	1 x 10 <sup>5</sup>	30 x 10 <sup>3</sup>	30 x 10 <sup>3</sup>	30 x 10 <sup>3</sup>
Nominal water flow rate in heating mode	l/h	800	500	500	500
Minimum water flow rate	l/h	500	420	420	420
Minimum recommended water flow	l/h	750	420	420	420
Maximum recommended water flow	l/h	850	1200	2100	2480
Minimum outlet temperature setting (in heating)	°C	25	20	20	20
Maximum outlet temperature setting (in heating)	°C	55	60	60	60
Heat pump water volume	l	1	1.2	2.3	2.3

Electrical					
Supply voltage/frequency	V/Hz	1/N/PE 230V 50Hz			
Fuse (x2)	A	T2A /250V	15type B /230V	25type D /230V	25type D /230V
Maximum absorbed power (P max)	kW	1.45	2.7	5.1	5.1
Real power absorbed by the fan and pump (with heating resistors)	kW	1.48	0.26	0.46	0.46
Real power absorbed by the fan and pump (without heating resistors)	kW	1.35	0.23	0.41	0.41
Maximum absorbed current (I max)	A	6.70	14	23	20
Real current absorbed by the fan and pump (with heating resistors)	A	6.43	1.18	2.09	2.09
Real current absorbed by the fan and pump (without heating resistors)	A	5.88	1.05	1.86	1.86
Starting current (with start-up current limiter)	A	<20	14	23	20
Index of electrical protection		IPX4	IPX4	IPX4	IPX4
Electrical classification		I	I	I	I

**Notes:**  
 \* Coefficient of Performance (according to EN 14511)  
 \*\* Energy Efficiency Ratio (according to EN 14511)

Technical data relates to Clearly Heat pumps only. Technical data for boilers will be dependent on specific boiler selected for system.

Further specific technical data can be obtained by downloading the Clearly Hybrid system installation and servicing manual at [www.glow-worm.co.uk](http://www.glow-worm.co.uk) or by contacting your Regional Sales Manager.

The Clearly Hybrid system has been designed to exacting industry standards, and individually tested to ensure reliability. The Clearly Hybrid system comes complete with 2 years parts and labour warranty as standard.

Accessories	Article number
Envirosorb <sub>2</sub> 5kW	0010009402
Envirosorb <sub>2</sub> 7kW	0010011511
Envirosorb <sub>2</sub> 12kW	0010011512
Envirosorb <sub>2</sub> 14kW	0010011513
Hydraulic Module (For 5kW systems)	0020088487
Hydraulic Universal Module (For 7, 12, 14 kW systems, or a 5kW system with a new or existing boiler)	0020093875
Systempro	0020094750
Climapro <sub>2</sub> RF	0020085220
Outdoor sensor	0020093880

# Expert support & advice from start to finish

## System design

Good designs are incredibly important if you are going to get the highest level of efficiency and pay back from a Clearly Hybrid system. Our award winning, expert design service is completely tailored to suit your individual site requirements. Using the latest state of the art CAD technology we provide high quality designs supported by full indemnity cover.

Our expert systems technologies team will also provide planning and on site support for the most unique and challenging of renewables projects.

## Straightforward delivery

Glow-worm will deliver your Clearly Hybrid system anywhere you want, be it direct to site or to your local trade counter where you placed your order. Our standard delivery service is 3 – 5 days from receipt of order, but you can choose a next day or timed delivery if you need things quicker.\*

To ensure the site is ready to accept the delivery, we will call when we are 1 hour away from the delivery destination and will arrive with all the correct lifting equipment to ensure that the product is safely transferred to site – life couldn't be easier.

\*Subject to an additional charge

## Technical help

If you are planning or even in the middle of an installation and have a technical question you need answering, simply call our technical help line for a straightforward answer.

## Assisted commissioning\*

Service engineers will visit the installation and support you through the first system commissioning, helping with the final stages and handover of the installation whenever needed.

\*A charge may apply for this service

## Full local support

Our nationwide sales team provide installers and specifiers with support and partnership from beginning to end.

## Nationwide after sales service

We are committed to supporting you with technical help and after sales service online, over the telephone and on the road.

All our service engineers are Gas Safe registered and fully trained on all Glow-worm renewables systems including Clearly Hybrid. We have around 250 engineers based across the UK, each carrying over 1,500 different spare parts in their van enabling them to achieve an outstanding 97% first time fix rate.

## Spares

If in the unlikely event a problem occurs and a genuine spare part is needed, then you can rest assured that Glow-worm's market leading spare parts division will have the item you require. Thanks to our commitment towards maintaining functional spare parts, availability is for up to 15 years after the range production ends.

Glow-worm has a nationwide network of over 30 key spares stockist at approximately 450 locations around the UK which means getting hold of the part is as convenient as possible. If for any reason the items are not held by the stockist, then Glow-worm offers a next day delivery service for emergency orders.

## Online information

If you require standard technical advice information such as installation manuals and don't want to spend time on the telephone, visit our website at [www.glow-worm.co.uk](http://www.glow-worm.co.uk) where you will find comprehensive technical information, solutions to common installation, system problems and advice on energy saving.

